

Natural Selection

A Magazine of the Tri-I Community





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CONTENTS

- 04 **From Barre to Bench: When Art and Science Converge**
Mary Whelan
- 10 **Working Towards Gender Equity in Academic Science Requires Addressing Systemic Barriers**
Valerie Gallegos
- 14 **Bear With Me: A Dispatch From My Photography Trip to Alaska**
Jacopo Razzauti
- 20 **Celebrating the Fourth Anniversary of *Five Trailblazing Women Scientists at The Rockefeller University***
Valerie Gallegos
- 24 **A (Freezing) Saturday in Astoria, Brought to You by Zohran Mamdani**
Mia Haraguchi, Stephen Thornquist, Maya Wyse
- 28 **Basquiat: A Griot and His Skulls**
Juan Sebastián Andrade-Martínez
- 31 **Borges's Eleven**
James S. Lee
- 34 **Making Scents of New York City**
Maya Z. Wyse
- 36 **Looking for Faces in Flowers During the Pandemic**
James S. Lee
- 13, 35 **Book Reviews**
Lola Neal



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Below and right: IN VIVO, choreographed by Mary Whelan. Photos by Faith Ho.



FEATURE

From Barre to Bench: When Art and Science Converge

By Mary Whelan

I have spent more of my life in a ballet studio than in a traditional classroom, let alone a laboratory. From a young age, I dreamed of a career as a ballet dancer, and ballet consumed my day-to-day life. I was homeschooled to accommodate my training schedule and moved away from home at sixteen to attend a professional ballet school. After completing high school online while training in the studio during the day, I joined a professional ballet company as a trainee. Recurring injuries eventually meant the end of my path in the ballet world, and I entered college.

As a dancer, I was drawn to biology because of its connection to the human body, but my fascination with the dynamic molecular mechanisms underlying life processes developed in college. In my molecular biology courses at Princeton University, I watched proteins dance and observed rhythmic waves of RNA transcription

that the most brilliant choreography could not replicate. I found that I could apply both the discipline and the creativity I learned in the ballet studio to my work at the laboratory bench. As I became enchanted with the intricate choreography of life at the molecular level, I began to think about science as an artistic endeavor.

My background in the arts both informed my initial interest in biology and inspired me to continue to seek out and uncover the beauty within the design of the natural world. When I told my undergraduate thesis advisor that I had decided to do my Ph.D. at Rockefeller, he told me that he knew of only two science professors who were in the ballet world before becoming scientists—and both were at Rockefeller. Recently, I sat down with each of them to discuss their trajectories from dance to science and their perspectives on the complementarity of the two disciplines.

Erich Jarvis, Professor and Head of the Laboratory of Neurogenetics of Language, was born and raised in New York City and grew up in a family of artists and performers. He attended the High School for the Performing Arts and trained seriously in ballet and modern dance both there and on scholarship at the Joffrey Ballet School and Alvin Ailey American Dance Theater in Manhattan.

Despite his intense focus on the arts, Jarvis says he always had “the science bug.” At the end of high school, he had to decide between auditioning for professional dance companies and attending college. “My mother used to say she didn’t care what we did with our lives as long as it’s going to help society and do something good for humankind,” he says. “And I thought I could do that better as a scientist than I could as a dancer.” He ultimately decided to attend Hunter College in Manhattan, although he continued performing with the Westchester Ballet Company throughout his first year of college. Jarvis studied biology and mathematics at Hunter and joined a laboratory. There, he says, “I learned that training to become a dancer helped me to become a scientist,” as he redirected the work ethic, resilience, and artistry gained from dance to his work in the laboratory.

Jarvis performed both his Ph.D. and postdoctoral research at Rockefeller. He then spent eighteen years as a Professor of Neurobiology at Duke University before returning to Rockefeller as a Professor in 2016.

Vanessa Ruta is Professor and Head of the Laboratory of Neurophysiology and Behavior at Rockefeller. Both of Ruta’s parents were artists, and her family moved many times throughout her childhood. She trained in ballet and considered enrolling in a performing arts high school when her family moved to New York City. Instead, she attended Stuyvesant High School and continued her ballet training in the afternoons and evenings at the Joffrey Ballet School. As graduation approached, Ruta decided that, although ninety-nine percent of Stuyvesant High School students go on to college, she would be the one percent who did not. She then spent four years dancing ballet professionally in New York City, audi-

tioning, performing, working with choreographers, and taking daily ballet classes.

Eventually, Ruta grew frustrated with the instability, low pay, and subjectivity of the dance world and decided to devote her energies elsewhere. Inspired by her high school chemistry teacher, Ruta enrolled in a chemistry course at Hunter College. Ruta says she was attracted to “the beauty and the logic of the periodic table” and the immutability of chemical principles that offered a welcome change from the volatile performing arts world. The discipline and drive she devoted to her dancing was now poured into her schoolwork, which she says made academics easy. “You put that much work into something that’s not dance, you do extremely well . . . that made me recognize that I probably had other things I could offer the world.”

Ruta started doing laboratory research as an undergraduate and, after obtaining her bachelor’s degree in chemistry, went on

to the Ph.D. program at Rockefeller. She then performed postdoctoral research at Columbia University and was appointed as a Professor at Rockefeller in 2011.

Through my conversations with Jarvis and Ruta, it became clear that their years in the dance world were not merely a prelude to their scientific careers, but a training that has continued to inform and influence their work ethic, research approaches, and scientific sensibilities.

An All-Consuming Endeavor

When you are training to be a professional dancer, every aspect of your life becomes oriented towards that pursuit. In a discipline in which the end goal is perfection, there is always work to do. This mindset is first instilled in young dancers by their teachers, but for those who fall in love





in experiencing an “environment where people are so passionate about the science that it doesn’t get contained in the walls of the lab.” Just as the work in ballet never stops because the aim is unattainable, scientists’ unending pursuit to uncover the truths of the natural world constantly reveals additional complexities and unlocks new questions, yielding a persistent positive feedback loop of experiments.

A Choreography of Experiments

with the art form, it arises from a deeply intrinsic self-motivation that lends itself to the dedication and discipline necessary to progress. By the time Jarvis was in high school, he had devoted himself to “being the best [dancer] I could be,” and he realized that the life of an artist is an all-consuming endeavor, rather than a nine-to-five. Describing the work of her father, who painted every day if he could, Ruta similarly emphasized that the life of the artist is not confined to working hours, and that artists’ dedication to their craft extends beyond mere discipline or creative impulses—“You’re compelled to do it.”

When she stopped dancing, she stopped completely, and this provided space for her to discover a whole new world of possibilities that were open to her in science. “I liked the fact that science is almost limitless . . . You never really fully solve a problem,” she says. “I like to push things as much as I can. That’s why it wasn’t such a hard transition to go to science; there is so much to do that I never feel bored.”

Recalling a summer program at the Marine Biological Laboratory in Woods Hole, Massachusetts, Ruta says, “Woods Hole is a place where you go to the beach and see people drawing molecules in the sand.” There, she found great inspiration

Although science is objective, quantitative, and rigorous, Ruta says that “certain parts of it are also totally creative: how you think about a problem, how you design experiments, how you present data, and how you think about new directions,” and that these aspects are “extremely similar to the way artists explore new spaces.” Ruta compared how the scientific process unfolds to a painting or a choreographed work that develops over time. The end result may not be fully clear throughout the process, but through creative insight and methodical work, you can arrive at a complete story.

Choreography, the sequences of steps performed to music by dancers, allows dancers to tell stories and convey emotions in ways that may be beautiful and unexpected. This

generation of new sequences is the most creative aspect of the discipline, and choreographers’ visions shape the evolution of dance. Choreographers draw from a repertoire of established movements, or create new ones, and combine them in novel ways to produce original choreography. Successful choreography requires manipulation of multiple moving bodies to achieve precision in timing and space, with each movement and phrase of the music contributing to the effect of the full, completed piece. While training, dancers learn and repeat this repertoire of steps in daily classes and rehearsals to acquire the technical precision necessary for eventually performing these steps in new sequences.

Laboratory research likewise has an ever-expanding set of experimental methods, with multi-step protocols that must be performed multiple times with diligence and precision. The scientist’s process is thus mirrored both in the role of the dancer performing the rote steps of an experiment or phrase of movement, and in the role of the choreographer, who must ensure that the steps being performed can coalesce into a comprehensive scientific narrative of discovery.

Jarvis also emphasized that the choreographic process requires trial and error.



Photos by Maikl Wet. Source: Wikimedia Commons (top, bottom). Used under CC BY-SA 4.0.



A performance of Swan Lake. Photo by Andrew Bossi. Source: Flickr. Used under CC-BY-SA 2.0.

The choreographer must ensure smooth transitions and adapt to the needs of the music and the dancers. Similarly, partnering is a central component of ballet and other forms of dance, and good dancers must know how to work with their partners. Jarvis sees parallels to this choreographed, partnered work in the operations of a laboratory, especially in the collaborations among its members that are essential to moving science forward. He also has learned to know when to adapt and change course in order to create an elegant “choreography of experiments.”

The creativity Jarvis learned to embrace in his formal arts training has continued to shape his scientific approach. “My colleagues over the years have considered me

a more creative scientist than the average,” he says. “And I attribute it—if what they’re saying is true—to being an artist.”

Science as Performance

The creativity and discipline inherent in dance training are inward components of the art form, but this inner work is ultimately directed outward towards the end goal of performance for an audience. While scientific work is performed within the laboratory, presentations are a frequent and essential component of academia. To Ruta, the performance aspect of science is found in honing the ability to present to people “what you

find beautiful within the complexity of the natural world” in a compelling way.

A fundamental lesson Jarvis learned in his dance training is that “there is a lot of failure before there is success,” and he emphasized that this is true in the scientific world as well. Jarvis also credits his performing arts training with helping him to be an effective and confident communicator and presenter of his research. When Jarvis was invited to give a Presidential Lecture to an audience of nine thousand at the Society for Neuroscience, he used the lessons he had learned as a dancer about stage presence, engaging with your audience, and calming nerves before he got up on the stage, another instance in which his dance training continues to inform his work as a scientist.

Uncovering the Beautiful

People seek out both the arts and the natural world for sources of beauty and inspiration. To Ruta, there is “a lot to be said about beauty in science, both the appreciation of the natural world and the beauty in principles that are threaded throughout it at different levels.” Scientists have the privilege of being able to look at the natural world on the microscopic level, whether when admiring a particularly striking immunofluorescence image, or, for Ruta, when “looking at a protein structure which is so visually evocative about potential mechanism” or observing an “overt behavioral phenotype that you had predicted.”

Ruta also finds beauty in the scientific process itself, through which she seeks to systematically understand the world around us. She considers this understanding as a “certain type of revelation that is like seeing something beautiful,” and this motivates her to “design experiments that give you a crisp, clean, beautiful answer” so that “ideas that are elusive become more tangible.”

Jarvis finds beauty in the elegance of biological systems, from the muscles that

allow animals to produce vocalizations to the complex, coordinated mechanisms that drive a host’s response to a microorganism’s attack. These biological solutions are often unexpected. For example, Jarvis’s research has revealed that, surprisingly, the specialized neural connections that control humans’ vocal organs may have arisen from a gene’s lack of function, rather than a gain of function. When a neuron loses a gene that typically plays an antagonistic role and inhibits the formation of connections in a certain brain region, it can then interact with another neuron. This has led to the formation of speech-brain pathways. To Jarvis, “That’s a beautiful solution . . . and a simple one.”

Science Influenced by Art

Dance has influenced not only Jarvis’s approach to science but also the scientific questions themselves, including ongoing work on the neurobiology of dance. It had long

been thought that humans were the only species that could dance—that is, move our bodies rhythmically to a musical beat—but in 2009, several research groups discovered that vocal learning species, such as songbirds and dolphins, can also dance to music. Jarvis suggests that this indicates a relationship between the ability of certain species to learn and imitate sounds and their ability to dance. While a Professor at Duke, Jarvis showed that the neural pathways that control learning how to imitate sounds are directly surrounded by the pathways that control learned movement sequences. This tight integration of hearing with the movement of muscles that control sound is what enables vocal learning in these species.

While Ruta does not see her background in dance as directly influencing her research interests, she believes that it is connected to her research style, or her “research aes-



Photo by Quinn Wharten.

thetic.” Just as some people prefer classical ballet while others prefer abstract modern dance, she says that “there is also a personal aesthetic to the way you think about science. And so there are certain types of questions that I find very appealing intrinsically.”

Ruta’s laboratory studies the neural circuitry that underlies innate and learned behaviors in the well-established model organism *Drosophila*. She enjoys this model system’s tractability, and has found that scientists’ personalities and stylistic preferences often “color the way [they] do science in a very similar way to how artists have different visions for their work . . . I think there is something about the type of dance I liked doing and the type of science that I do that is related to something deep in my personality.”

Ruta also finds inspiration in the ways in which art is integrated into the campus and culture at Rockefeller, from the aesthetics of the campus design to its extensive art collection to the way people approach scientific questions. She says that Rockefeller “cultivates people to have the creativity [and] freedom to do the science that we want to do.” This culture provides room for scientists to hone their craft in a way that is similar to the artistic process, and Ruta describes Rockefeller’s model for their laboratories as, “Here’s a canvas . . . do whatever you want with it.”

Rockefeller’s emphasis on creativity stands out to Jarvis as a characteristic that is unique among its peer institutions, which he remembers making an impression on him when he was applying to Ph.D. programs. To him, Rockefeller has been a place where “creative thinking is not only fostered; it’s rewarded.”

In addition to this indirect emphasis on artistry in science, several initiatives at Rockefeller directly promote arts engagement and accessibility. These include the Bronk Fund, which provides reimbursement to Ph.D. students for art lessons and tickets to performances; the Peggy Rockefeller Concert Series, which brings world-renowned musical artists to campus for several performances a year; and free admission to the Museum of Modern Art. The existence of these programs

at Rockefeller reflects a recognition that exposure to and engagement with the arts can complement scientific training.

When Art and Science Converge

Jarvis and Ruta have both found that the life of the artist has many parallels to the life of a scientist. These parallels are found in the daily discipline—the methodical nature of the ballet dancer’s work at the barre and the scientist’s persistent work at the bench—and in the broader aim of, as Ruta puts it, “thinking about how to represent the world around you.”

Art and science are often perceived as separate, or even disparate, disciplines. This perception may be due in part to the fact that art is consumed by the public, while

Science is not only influenced by art metaphorically; it can also be understood as a form of art that uses a particular language and medium.

scientific research is primarily consumed by other scientists. Practically, due to the dedication of time and extensive mental or physical effort required of both endeavors, it is also difficult for someone to pursue both disciplines to the fullest. However, Jarvis believes that more people who are trained in the arts could pursue a career in science than they might realize, and both Jarvis and Ruta agreed that many artists may be uniquely poised to be excellent scientists.

Scientists who have some training in the arts may view art as a side pursuit or a refuge from their laboratory work. The ongoing influence of the dance world—its ethos, aesthetics, and practice—in Jarvis’s and Ruta’s science suggests that the boundary between the two disciplines is far more permeable. Science is not only influenced by art metaphorically; it can also be understood as a form of art that

uses a particular language and medium.

The language of dance is also embraced by the world of science. A [recent article](#) published by Rockefeller’s Science News about Professor Shixin Liu’s work on the machinery and dynamics of transcription complexes refers to transcription as a “tightly choreographed event.” In recent guest lectures at Rockefeller, Harvard University Professor Philip Cole described the assembly of a protein complex as “intricate choreography,” and Nobel laureate David Julius, Professor at the University of California, San Francisco, said of a thermosensitive ion channel’s conformation changes, “It’s quite a pirouette.”

In my own experience, the discipline, artistic eye, and attention to detail I learned from ballet have informed my approach to laboratory work and my research interests. Learning to design experiments in the laboratory has in turn influenced my creativity in the ballet studio (such as a short experimental ballet I choreographed titled *IN VIVO*), and my work in each area has enhanced the other. My time in the dance world, and my relatively brief time in the scientific world, have shown me that dance and science can be seen everywhere in the world around us—from the patterns commuters weave through each other during rush hour foot traffic at the subway station to the geometric patterns of flower petals that arise from precisely and elegantly choreographed genetic regulation.

Ruta believes that the creative, iterative, exploratory, and performance-based elements of science are things that are “missing fundamentally in the way people represent scientists.” Her own appreciation for the artistic nature of her work has developed throughout her career. “It’s been fun to see how similar I am to my father,” she says—a man who devoted his life to his art and was a huge source of inspiration to her.

Jarvis has also come to “see science as a form of art” throughout his career. “I always thought I was going to totally give up one or the other,” he says. “But I never stopped dancing.” ■

Working Towards Gender Equity in Academic Science Requires Addressing Systemic Barriers

By Valerie Gallegos



Would you continue pursuing scientific curiosity if you had to constantly fight for your place at the bench? What if it were highly likely that your work would be overlooked, minimized, or even written out of history? For many women in science, this is a lived reality. Despite persistent barriers to training, recognition, and career advancement, women have persevered and

played influential roles in scientific discovery. Their contributions live on, even when institutions failed to acknowledge them at the time of the breakthrough.

Today, many universities and research institutions are working to highlight these once-forgotten figures. While these retrospective celebrations give many scientists their overdue recognition, they remain a

temporary fix. As the number of women in higher education continues to increase, it is arguably unethical for institutions to ignore structural barriers that limit who is fully supported, recognized, and allowed to thrive. Until there are robust and intentional efforts by academic institutions to address systemic barriers women still face, academia risks continuing to lose talented scientists and groundbreaking ideas.

Long Road to Eliminating Gender Discrimination in Education

Dismantling current gender biases in academic research requires acknowledging the long history of discrimination within higher education. For centuries, women's first hurdle was simply gaining access to education and training. Although colleges were established in the American colonies as early as the 1630s, enrollment was [limited to white men](#), often from elite social classes. White women of similar standing were subjected to the growing social ideology of separate spheres, demanding that women lead private, domestic lives centered on child-rearing.

It was through the abolitionist movement in the decades surrounding the U.S. Civil War that many women began to challenge restrictive social norms. Although the experiences of Euro-American women and enslaved Africans were vastly different, [abolitionist feminists recognized parallels](#) in the ways both groups were denied autonomy by societal structures. This growing political consciousness helped fuel broader demands for women's education and public participation.

By the mid-1800s, a small number of co-educational U.S. colleges allowed women to enroll in degree-granting programs, but significant barriers remained: the financial burden of tuition and boarding, restrictive societal expectations, strict enrollment caps, and limitations on coursework. For example, despite Cornell University's founding mission to create a learning environment open to all regardless of race or gender, women were not allowed to enroll in degree-granting programs during the first five years of Cornell's existence. When Jennie Spencer was admitted in 1870 as Cornell's first female student, she was [forced to withdraw](#) only a few weeks into her first semester due to a lack of lodging accommodations. For women of color, racial discrimination and prejudices further limited the already scarce opportunities to obtain a college-level education.

Many women found that the environment at co-educational colleges was not

idyllic. They were often met with harassment and exclusion by male peers and professors without repercussions from the administration. Several women's colleges emerged to provide rigorous academic training without the hostility that characterized many co-ed institutions. The prestigious Seven Sister schools—Mount Holyoke, Vassar College, Wellesley College, Smith College, Radcliffe College, Bryn Mawr College, and Barnard College—were viewed as the [female equivalent](#) of the male Ivy League institutions and played a crucial role in training early American female scientists. Notably, Florence Sabin and Rebecca Lancefield, who became pioneering researchers at Rockefeller, studied at Smith College and Wellesley College, respectively.

In the years following World War II, women made significant strides in shifting social norms and public policy. The Civil Rights Act of 1964 [banned sex-based discrimination](#) in private employment and public accommodations, but its protections were not extended to women at federally funded institutions, including public colleges and universities. Title IX, passed almost a decade later, explicitly banned sex-based discrimination at public institutions and contributed to an increase in the percentage of college-educated women [from 9% in 1972 to 40% in 2024](#).

Private colleges and universities, however, were not required to accept women in all degree programs. In 1983, Columbia University, despite its longstanding affiliation with Barnard, became the last Ivy League institution to admit female undergraduate students.

Lessons from Historically Women's Colleges: An Incubator for Women Scientists

The U.S. science community has made strides in securing a seat at the table for women, but moving toward equity in science requires more than increasing the number of women in laboratories. Systemic changes are needed to ensure all scientists work in an environment where they can thrive. Despite

[earning the majority of doctoral degrees](#) over the past two decades, women faculty members are [outnumbered](#) in nearly all academic fields. A study published by researchers at the University of Colorado analyzed retention and attrition trends among tenure-track and tenured faculty at U.S. Ph.D.-granting institutions between 2011 and 2020. They found that not only are [women more likely to leave](#) academia—they often report feeling pushed out, rather than pulled by a more interesting position. Among the women in the study who left academia, workplace climate was a major factor. Many reports, across job sectors, have shown that male-dominated industries can [harbor hostile environments](#) for women and can negatively impact their self-confidence.

To gain insight into how female-dominated academic spaces can impact a scientist's passion and career trajectory, I sat down with Lauren (Lola) Neal, a Ph.D. student at Rockefeller University. Before joining Rockefeller's graduate program in 2020, Lola earned her B.S. in neuroscience at Agnes Scott, a women's liberal arts college in Georgia.

Lola noted that the women-centered atmosphere at Agnes Scott was not an important factor early on in her college search—she became aware of historically women-serving institutions while looking for liberal arts colleges. “I wanted to find a smaller, more intimate learning environment . . . the big schools didn't really speak to me.” Lola explained that, growing up, she attended Montessori and public schools. She preferred the “choose your own path” aspect of Montessori schools and wanted a similar option for her undergraduate education. She was drawn to Agnes Scott's academic structure, which emphasized global learning and leadership skills throughout its coursework, in addition to offering a degree in neuroscience.

During our conversation, we discussed the root of her scientific passions, and Lola had difficulty pinpointing an exact time. “I feel like I have always been really curi-



ous about the natural world. I don't have a spark moment like a lot of people do. I just had a natural attraction to asking questions and being really, really curious, and I knew science was awesome. But as a young person, I did not know what kind of science I wanted to do, so why not do it all?"

The majority of faculty at Agnes Scott are women, which Lola says increased her confidence in pursuing a scientific career. She mentioned that when she visited the school before attending, she was told that women are less likely to raise their hands in male-dominated classes. This parallels my own undergraduate experience at a public co-ed university. Although I was an active participant in my science courses, I was often discouraged by my Calculus III professor from asking questions, while my male peers could ask away without any repercussions; this was a pattern I noticed among the other four female students enrolled in the class. "[Women] are less likely to speak up or take charge of a classroom conversation, whereas a lot of the men would be fine doing so," Lola explained. "It was very interesting being in an academic space where that factor is removed, and you just have to deal with regular shyness or being nervous about not saying the right answer."

My discussion with Lola highlighted that an academic environment where women are not only included but actively encouraged to participate can have a positive impact on an individual's confidence and career trajectory.

Institutional Changes Are Needed To Move Towards Equality in Academia

As a first-generation, female scientist, I have participated in many trainings, workshops and research programs that have allowed me to adapt to the world of academia and grow

confident in myself. But advice can only go so far to help me thrive in a system that was not designed for me. Additionally, many inclusion initiatives are student-led or fall on the backs of minoritized individuals without compensation. It is time for institutions to practice what they preach and intentionally work toward creating an inclusive environment where all scientists can thrive at every career stage.

One way to level the playing field for academic research positions is by addressing issues facing early-stage scientists, including hiring biases and lack of support for parents. Two notable studies, published in 2012 and 2019, [highlighted gender biases](#) in hiring practices for [laboratory managers](#) and [postdoctoral fellows](#), respectively.

Both studies asked professors at research universities to evaluate CVs and indicate whether they would hire the candidate. The only difference between the CVs was the candidate's name. Faculty, regardless of gender, chose to hire male candidates at a higher rate than female candidates. Additionally, the postdoc

hiring study reported that faculty rated white and Asian candidates as more competent and hireable than Black and Hispanic candidates. For women who want to stay in academia, the effects of hiring biases are often compounded by additional personal stressors, such as carving out work-life balance and navigating parental responsibilities, which tend to [weigh less heavily](#) on their male counterparts.

The publication currency that is driving promotions in academia must be reevaluated on an institutional level, not only to reduce gender inequality but also for the betterment of science as a whole. While the tenure process is unique to each institution, a strong history of publications and funding is often used as a benchmark for scholarly achievement. Studies have shown that [women face biases when submitting papers](#), which negatively impacts funding and career progression. Ten-

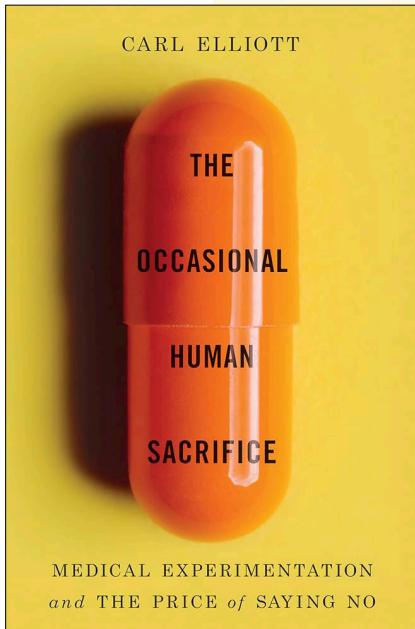
ure-track professors who are not awarded tenure have two options if they want to stay in academia: 1)

accept a non-tenure position or 2) look for a tenure-track position at a different institution. Women are [more likely to stay in academia](#) but are notably less likely to start or remain on the tenure track compared to their male colleagues. Additionally, studies have shown that women in academia are, on average, [paid less than men](#), and it is in these non-tenure positions that the gender pay gap is greatest. The road to true gender equality in science must be paved by institutions, not just individuals. If academia truly values diversity of thought and innovation, it must work to ensure that talented scientists, regardless of background, are not pushed out of the field by hostile environments, systemic biases, or lack of support. Despite these barriers, women have led and continue to lead key scientific discoveries. Their success demonstrates that the question is not whether women are resilient enough to stay in academia, but why institutions continue to uphold systemic barriers that make resilience necessary. ■



BOOK REVIEW: NONFICTION

The Occasional Human Sacrifice: Medical Experimentation and the Price of Saying No
By Carl Elliott



Our current world is constantly throwing moral quandaries our way: what is right and what is wrong? In science and medicine, this question often comes up in the context of experimental design, choosing a model for a study, and risk assessment. Though efforts towards transparency, maximizing benefits, and minimizing harm have increased over the years, we still must reckon with a dark past where these moral standards were not the norm, causing irreparable damage. In Carl Elliott's *The Occasional Human Sacrifice: Medical Experimentation and the Price of Saying No*, we are offered the unique perspectives of the whistleblowers responsible for bringing research misconduct to the forefront. We are exposed to research atrocities, some familiar to many, some unfamiliar to most, and the lengths to which power structures within science will go to avoid disrupting the status quo. Elliott explores the grim price of morality through conversations with whistleblowers who were punished and ostracized for their courage to stand up for what is right. These accounts offer insight into the structural preservation of systemic mistreatment and endangerment of vulnerable populations, provoking us to think about how our actions as scientists might uphold or dismantle this structure.

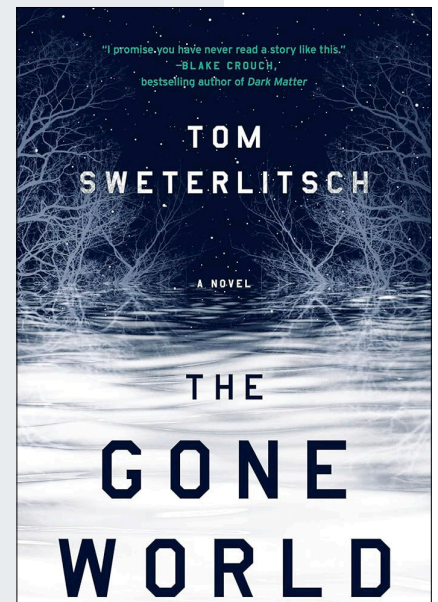
—Lola Neal

BOOK REVIEW: FICTION

The Gone World
By Tom Sweterlitsch

Immerse yourself in an alternate world where criminal investigations require frequent visits to future timelines to uncover the truth behind the present. *The Gone World* is a cerebral science fiction novel that follows a young investigator tasked with investigating a major crime involving a fictionalized, space-focused U.S. Navy group. The crime, an act of violence by a Navy man on his family, serves as a small peek into a scientific plot that is ushering in the literal end of the world. The butterfly effect is at the forefront of the text, as each trip to the future does not show what *will* be, but rather what *could* be. Any small change in the present can incite a new future timeline. The only guaranteed outcome? The apocalypse. As our main investigator explores multiple timelines, we explore themes of unrestricted power, reality, the potentially drastic effects of scientific and technological advancements, and, ultimately, fate. How much of our future is really within our control?

—Lola Neal





GRASSROOTS

Bear With Me: A Dispatch From My Photography Trip to Alaska

By Jacopo Razzauti

It is 9:48 p.m. on June 25, and I am at Fairbanks International Airport. The airport is bright and spacious, much as Alaska itself had been promised to be, and as I struggle to stay awake while waiting to board, I remind myself why I decided to come here in the first place.

When I booked my flights from JFK to Anchorage, I expected my Alaskan photography trip to bring two things: the complete loss of any meaningful sense of time for a couple of weeks, and the particular kind of thrill I associate with backpacking trips from my younger years. I imagined experiencing these sensations somewhere deep in the wilderness of Katmai, photographing

bears as they calmly enjoyed the salmon run, or in similarly cinematic scenarios that tend to materialize in your mind as you reply to Outlook emails on a Monday morning. What I did not expect was to experience this thrill before I had even boarded the plane.

Indeed, almost twenty-four hours ago, I had received a text message that read, with admirable brevity, "*Your flight from JFK to Anchorage has been canceled.*" This message was promptly followed by relentless reminders that time does, in fact, exist, delivered in the form of endless customer service calls accompanied by a lo-fi soundtrack, a rushed taxi ride to the airport, and three delayed planes: JFK to San Francisco, San Francisco to Fairbanks,

and finally, if I happen to survive the next twenty (now expected to be forty-five) minutes, Fairbanks to Anchorage.

In front of my gate, I stare at an entire wall covered in moose and bear plush toys, proudly displayed outside the duty-free shop. I briefly wonder whether photographing these might provide some form of thrill. The board announcing my long-awaited flight to Anchorage reads “*Delayed — 25 minutes.*” In the background, lo-fi music plays. I am reasonably certain it is the exact same lo-fi music that accompanied my hours on hold with customer service.

If in my daily life I consider myself a loyal vassal of delays and missed deadlines, this is one occasion where punctuality is non-negotiable. The rest of the group, whom I will now refer to as *the crew*, since it sounds considerably more adventurous-y, is converging on Anchorage tonight from various parts of the world. If I do not normally consider myself a morning person either, tomorrow, June 26, at 8 a.m. sharp, the time of our departure toward the Denali National Park, I intend to be one.

Both the group and the trip itself are built around a careful balance. Half of the crew consists of professional photographers or expert naturalist guides, while the other half is made up of enthusiastic amateurs and devoted enjoyers of nature. Among the professionals are people who have won major wildlife photography awards and worked with organizations such as WWF and *National Geographic*.

I, of course, fall firmly into the amateur category. Beyond losing track of time and experiencing some thrill, my third, and perhaps most ambitious, goal is to become better at capturing animals in their natural environment. I have some experience photographing migrating birds in New York City, or the many raccoons inhabiting the Ramble in Central Park, but Alaska is something entirely different.

The sole purpose of the upcoming fourteen days sounded deceptively simple when the crew discussed it over several organizational Zoom calls: to capture beauty, wanderlust, the inevitable *Into the Wild* atmosphere, and a collection of other ideas that

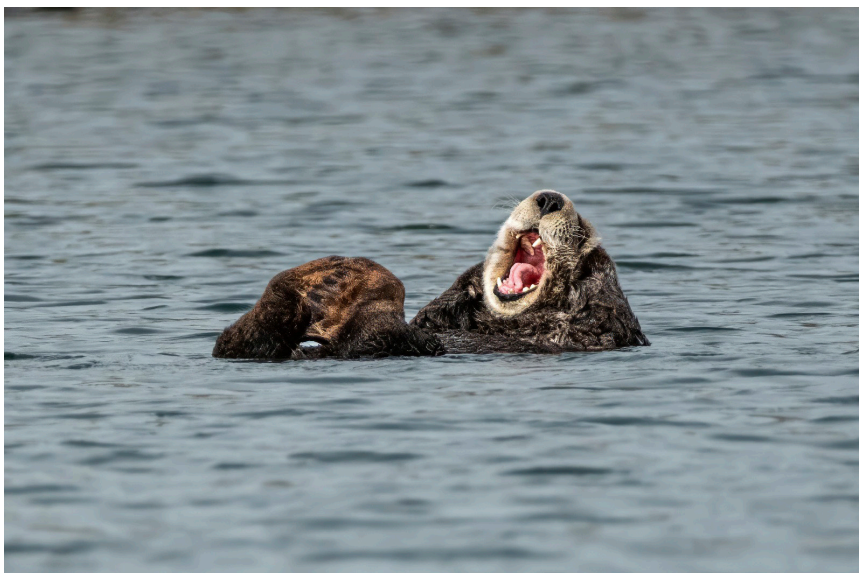
became increasingly convincing after sufficient repetition and prolonged scrolling through persuasive images on Pinterest. These serious intentions, however, came with a side effect: they stressed me out. I was far from a professional, and although I was there to learn, I could not shake a persistent sense of impostor syndrome, or perhaps a mild form of performance anxiety. This feeling was not helped by the fact that, for a few days, we would share our hotel with wildlife filmmaker Bertie Gregory and his crew, who were preparing for an expedition to a remote region of northern Alaska.

As I waited for my plane to Anchorage, I found myself handling my Fuji camera compulsively, repeating the same gestures over and over: changing settings quickly,

switching to burst mode, cycling through autofocus tracking for birds and mammals, trying to commit everything to muscle memory. It felt less like preparation and more like training for a competition, one in which I was not entirely sure I belonged. The plane to Anchorage finally boards with just fifty minutes of delay. It seems I am going to make it in time after all. As I step onto the aircraft, it feels as though the most adventurous part of the trip is now behind me, and that I can finally relax.

This, in retrospect, is a remarkably naïve thought.

Meeting the crew upon arrival at the Ted Stevens Anchorage International Airport dissolves most of my doubts almost imme-



diately. There is, of course, the usual ritualized exchange of gear-related bravado: obligatory claims about Sony autofocus superiority, casual comparisons of lens lengths, polite but unmistakable flexing. And yet it quickly becomes clear that none of us is here primarily to get the best shot. We are here to experience the wilderness of Alaska. Good photographs, it turns out, are a corollary, what I would define as an afterthought. This is mildly absurd given the sheer quantity of gear, planning, and obsessive optimization involved, but it seems that either it is true or this sense of detachment is just a symptom of everyone's, not just my own, impostor syndrome or performance anxiety. I ponder this as, over dinner that same night, we start discussing each other's quiet personal checklist of desired photos, what professionals call a *shot list*—a private catalog of images they would very much like to bring home. The most popular is the classic Thomas D. Mangelsen [“Catch of the Day”](#) shot: a salmon suspended midair on its way into a grizzly's open mouth at Brooks Falls. Close behind are bald eagles on the beaches of Homer at low tide, a humpback whale breaching with the Kenai Fjords behind it, a bull moose standing in a field of fireweed, and Denali towering above braided rivers under an improbably clear sky.

These are the images we pretend not to chase but secretly hope will find us.

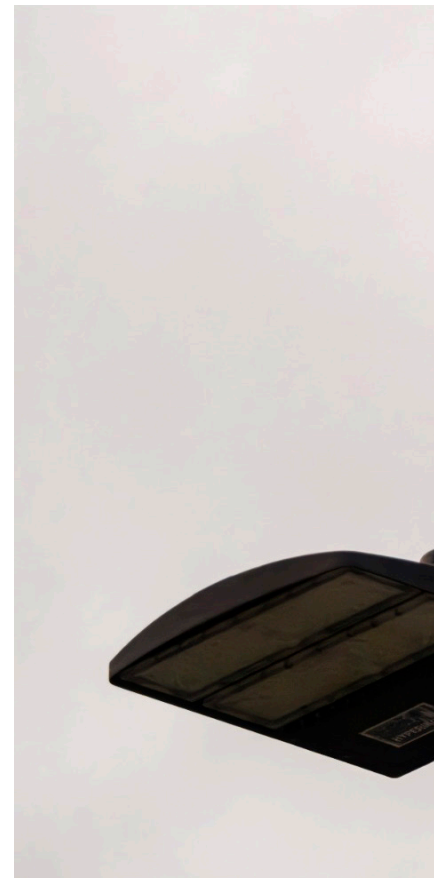
I include myself in this “us,” despite not having prepared a formal shot list. My main intention is simply to photograph wildlife without the unavoidable presence of humans. In New York, wildlife photography is possible, but rarely truly wild; traces of humanity are very hard to keep out of the frame. Except perhaps in a few hidden corners of the Ramble, it is difficult to produce an image that feels untouched. My Alaskan shot list, therefore, is simple: anything without people in it.

The combined overlap between everyone's shot lists and the places where such images are actually possible determines much of our itinerary, which, like the group itself, is split between careful organization and chaotic opportunity. The first week will take us to Denali National Park, where we hope to spot Dall sheep, whose rarity turns out to



depend heavily on knowing where to look, along with bears and moose. On the return from Denali, we will stop at Hatcher Pass, a mountain region known for sightings of the American pika, a small alpine relative of rabbits often mistaken for a marmot. From there, we will head south to the Kenai Peninsula, exploring Kenai Fjords in search of sea otters, orcas, and whales. Finally, we will reach Homer, the coastal town built on a narrow spit of land that serves as our gateway to Lake Clark and Katmai National Parks, where we hope to photograph bears catching salmon at the height of the run. The remaining week of the trip is deliberately left open. It functions as a contingency week: if we are unsatisfied with our whale photographs, we return to the Kenai Peninsula; otherwise, we focus on bears, birds, or whatever we failed to see during the first half of the journey.

Planning a trip around animals works a little like the Pokémon games I used to play on my Nintendo DS. You study a creature,





determine where it might appear, travel there, wait, explore, and hope. Then, in an unpredictable mixture of luck and preparation, you might encounter it. Whether the resulting photograph resembles the image imagined in your private shot list depends on an almost absurd number of variables—something that would become one of the most important lessons of the trip.

The next morning, I attempt to dress like a morning person and wake up at 6 a.m. to prepare my gear. The first image I hope to capture is Denali's peak rising above a landscape of braided rivers. We expect several opportunities along the drive north; excellent views of the mountain can often be found along the Talkeetna Spur Road and from the village of Talkeetna itself. Our plan is then to board a small Cessna aircraft to fly around the mountain and photograph it from above.

This means I will probably need a wide-angle lens—around 12 mm—and, depending

on the weather, perhaps an ND filter for longer exposures. I know this not through expertise, but because I watched the rest of the crew mounting those lenses and quietly mimicked each of their gestures while preparing for our first day of shooting.

As we drive north, I immediately understand the importance of the contingency week, which I had previously dismissed as excessive. We stop at nearly every viewpoint along the road, each time hoping to glimpse Denali—a solitary mountain that, in photographs, had reminded me of Erebor—only to find it completely hidden behind clouds.

With every mile, disappointment grows. It becomes anthropologically fascinating to observe a car full of photographers disguising collective frustration in remarkably creative ways, ranging from profound critiques of their own equipment to extended philosophical complaints about the unpredictability of weather. When we finally arrive in Talkeetna, we are informed that conditions are too cloudy for the plane to take off and circle the peak.

And so, we do not fly.

The next day is our first day in Denali, and I keep moving my alarm, normally set for 8:30 a.m., earlier and earlier, finally settling on 6 a.m. The gear I pack this time is entirely different from what I brought the previous day. Our plan is to photograph moose, bears, and caribou, so I mount a long zoom lens of about 600 mm.

This is where the major photographer flexing begins, as everyone shows off their zoom lenses from Sony, Canon, and Nikon. I own a Fuji, a brand not typically considered ideal for wildlife photography because of slower autofocus and a more limited selection of long zoom lenses. This fact had never bothered me too much until now.

I chose Fuji for a simpler reason: the greens. The greens rendered by the Velvia film simulation are the most beautiful greens I have ever seen, richer than memory and more vivid than reality itself. They transform landscapes in a subtle but unmistakable way, making forests look deeper and fields more alive. It was this particular shade



of green that ultimately convinced me to choose a Fuji camera over the more wild-life-oriented systems the rest of the crew now proudly compares in the hotel lobby.

But faced with this carnival of massive fast zoom lenses, doubt begins to creep in. What if, despite all the effort and planning I can invest into a photograph, my gear simply is not good enough for this trip?

As we drive toward Denali, we constantly remind each other to keep watch for animals. Because none have appeared yet, this slowly turns into a quiet competition over who will earn the honor of shouting “BEAR!” or “CARIBOU!” first. The car would be completely silent if it were not for the *Last of the Mohicans* soundtrack playing on repeat since the previous morning.

My early morning adaptation process is slow, so I fall asleep, only to be awakened by a loud shout of “MOOSE!” followed immediately by its Italian translation, “ALCE!”, from the back seat. The brakes screech, and the car stops abruptly.

I am sitting in the front and instinctively reach for the door handle, but everyone immediately tells me to stop. If my hand had brakes, it would screech.

I am already excited to see the first wild animal of the trip, but what happens

next fascinates me even more. Animals are easily startled, and a startled animal becomes a fleeing animal, which means either a blurry photograph or no photograph at all. The goal, therefore, is simple: do not scare the animal.

Eight people suddenly jumping out of a car with cameras would almost certainly frighten even a large moose standing calmly in a meadow covered with fireweed. Instead, we exit slowly from the side opposite the animal, making as little noise as possible, and remain partially hidden behind the silhouette of the car. Only then do we position tripods, prepare cameras, and begin shooting in near silence. If the animal remains calm and continues grazing, we may gradually approach.

Wind direction also becomes crucial. Because animals often possess a far stronger sense of smell than humans, approaching from downwind is essential to avoid revealing our presence. I find this method deeply fascinating. Every possible sense the animal might use—sight, sound, and smell—is carefully considered. The objective is not simply to photograph wildlife, but to avoid disturbing it and allow the animal to behave naturally. On some occasions, you are even expected to predict the next behavior. For instance, when photographing eagles and birds, you try to anticipate them tak-

ing flight, so you gradually learn the cues the animals give before doing something.

I manage to take no good photographs of the moose. In my excitement, I leave the ISO far too high despite the full daylight. But as the animal eventually retreats into the forest and we return to the car, I feel unexpectedly content. I realize I am sharing this journey with people who genuinely care about animals and want to capture them in their most natural state.

Seven days later, on the beach in Homer, applying the same techniques I learned that first morning, I would find myself five meters away from a young eagle chick playing with a stick, taking what would become my favorite photograph of the entire trip.

The following days become an unstoppable series of thrills as we move through Alaska’s national parks, the same thrills I had been daydreaming about while booking my flights to come here. On the same day, we might watch a mother bear and her cubs wandering across the tundra of Denali and then fail completely to spot a single pika in the dense fog of Hatcher Pass. We struggle to find Dall sheep until another photographer, whom we meet while photographing trumpeter swans, tells us exactly where they descend to graze along the Seward Highway in the early afternoon. In Kenai Fjords, we are fortunate enough to witness humpback whales performing bubble net feeding.

Without consciously realizing it, somewhere between trying to keep my balance on a small boat approaching a group of sea otters and sitting in a Cessna flying over Denali on a rare sunny day of the contingency week, I completely lose any meaningful sense of time.

With each opportunity, I succeed and fail in roughly equal measure at capturing wild moments. Every evening, during our in-



The whole point of wildlife photography is to capture moments of animals behaving naturally. To get them to behave naturally, you have to respect them and leave them space and time. Infographic by Sarah Foust.



formal roundtables at dinner, we review each other's photographs and exchange feedback, moments that are sometimes encouraging and sometimes humbling. My third goal for this trip had been to improve at photographing animals in their natural environment. During my first few days, I believed this meant checking all the boxes on our collective shot list: an eagle in flight, a bull moose staring directly at the camera in a meadow, and so on. But this begins to bore me slightly. The process starts to feel like a simple translation from idea to action to photograph, something oddly unsatisfying even when my images are filled with the Fuji Velvia green I love so much. I also notice how many of our photographs look almost identical each evening, resembling the postcard images of Alaska that

I studied on Pinterest before arriving. Around the fifth or sixth day, at the edge of the contingency week, I begin experimenting and looking elsewhere whenever possible. During our visit to Brooks Falls—often considered a pilgrimage site for wildlife photographers, where hundreds of thousands of salmon attempt each year to leap upriver and sometimes end their journey in the mouth of a waiting bear—I find myself photographing something different. Instead of focusing on the classic image of a bear catching a salmon mid-jump, I take far more photographs of the dense red carpet of salmon gathering below the waterfall, waiting for their turn.

In this sense, I begin to think of my shot list not as something defined beforehand, but as something understood afterward—

an unplanned sequence of images that reveals itself only once the journey is over.

These are the photographs I find myself returning to as I wait for my flight back to JFK. They are full of the Fuji Velvia green I love, and they contain no traces of human presence. Looking at them, I realize that the night before my departure, twenty-four hours before my flight, I checked my phone almost hoping to read a message that said, "Your flight from Anchorage to JFK has been canceled." ■

Celebrating the Fourth Anniversary of *Five Trailblazing Women Scientists at The Rockefeller University*

By Valerie Gallegos

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Five Trailblazing Women Scientists at The Rockefeller University (2021) by Brenda Zlamany. Left to right: Florence R. Sabin, Louise Pearce, Gertrude E. Perlmann, and Marie M. Daley. Source: [Brenda Zlamany](#).

In 2020, Women in Science at Rockefeller (WISeR) and the Women & Science Initiative [commissioned](#) Brenda Zlamany titled *Five Trailblazing Women Scientists at The Rockefeller University*. This portrait, the first depicting women scientists, was installed in the lounge of the Abby Aldrich Rockefeller Museum. In the scenes, a group of faculty members identified five women to be included in the portrait, on the basis of their leadership in their field and had spent time at Rockefeller. Florence Sabin, Louise Pearce, Rebecca Lancefield, Gertrude E. Perlmann, and Marie Daley were selected, and members of WISeR worked to recover their omitted history.

Five Trailblazing University



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Florence Sabin (1871–1953)



Florence Sabin photographed by Doris Ulmann. Source: [Library of Congress](#).

Florence Sabin was a [scientist, educator, and public advocate](#). After attending Smith College, she was admitted to Johns Hopkins Medical School in 1896. At Hopkins, Sabin took an interest in brain anatomy and published the textbook *An Atlas of the Medulla and Midbrain* under the guidance of Franklin Paine Mall. Sabin worked as a medical intern after she graduated and rose through the ranks, ultimately becoming the first woman professor at Hopkins' medical school. She became the first elected woman president of the American Association of Anatomists and the first woman elected to the National Academy of Sciences in 1924 and 1925, respectively. She accepted a position as a research scientist at the Rockefeller Institute in 1925 and led multi-institutional studies into pulmonary tuberculosis. At the time, little was known about this infectious disease despite it being a significant public health concern in many urban areas. The work produced by Sabin and her collaborators significantly advanced knowledge of the immune system's interaction with tuberculosis bacteria. Sabin would continue working at Rockefeller until her retirement in 1938. During her retirement, she taught community members about tuberculosis in Denver, Colorado and worked with public health officials to advocate for better hospital conditions and funding. Her advocacy led to the passing of "[Sabin Health Laws](#)" in 1947.

Louise Pearce (1885-1959)



Louise Pearce. Source: *Smithsonian Institution*.

Louise Pearce began her science education at Stanford, studying physiology at a time when few women were doing so. She earned her M.D. at Johns Hopkins in 1912, following in the footsteps of Florence Sabin. After graduation, she worked as a house officer (similar to today's medical resident positions) at Johns Hopkins Hospital and was the only woman on staff. She wrote to Simon Flexner, the director of the Rockefeller Institute, requesting a research position. Soon after, Pearce became the first female researcher at the Institute and studied the use of arsenic compounds to treat trypanosomiasis, also known as African sleeping sickness. Following promising animal studies, she conducted the first human trials of trypanasamide for the treatment of trypanosomiasis in the Belgian Congo. Patients who responded to the treatment were observed to have a quick clearance of the parasite from blood and lymph nodes, a return to normal cerebrospinal fluid in advanced cases, and improved mental and physical states. Due to this work, she was awarded the Belgian Order of the Crown in 1921 and the King Leopold II Prize in 1953. Pearce was promoted to an associate member position at the Rockefeller Institute in 1923 and would later work on developing animal models to study cancer. Notably, her collaboration with Wade Hampton Brown led to the discovery of a transplantable rabbit cancer model known as the Brown-Pearce tumor, which was the only transplantable rabbit tumor at the time. In 1946, Pearce left Rockefeller to become the president of the Woman's Medical College in Philadelphia.

Rebecca Lancefield (1895-1981)

Rebecca Lancefield graduated from Wellesley College in 1916 with a degree in zoology and pursued a master's degree at Columbia University. Although she received a scholarship to attend Teachers College, Rebecca's passion for bacteriology drove her to enroll in all the available bacteriology courses. Upon completion of her master's degree, she worked as a technician for Oswald Avery and Alphonse Dochez at the Rockefeller Institute, where she published her first co-authored paper describing the classification of b-hemolytic streptococcal strains in 1919. Her interest in streptococci continued throughout her Ph.D. Due to her professor's resistance to working with female scientists, however, she was directed to conduct the majority of her thesis work at the Rockefeller Institute under Homer Swift. Under Swift's guidance, Lancefield studied the underlying cause of rheumatic fever. After she earned her Ph.D. in 1925, she worked on the classification of streptococci at Rockefeller. During World War II, Lancefield worked with the Office of Scientific Research and Development to identify strep strains and supply antisera to military labs. In 1943, she was elected president of the Society of American Bacteriologists and was promoted to full professor at the Rockefeller Institute in 1958. She was also the first elected woman president of the American Association of Immunologists and was elected to the National Academy of Sciences in 1970.



Rebecca Lancefield accepting the T. Duckett Jones Memorial Award in October 1960 for her work on hemolytic streptococci. Source: *Smithsonian Institution Archives* (Acc. 90-105 - Science Service, Records, 1920s-1970s).

Gertrude Perlmann (1912-1974)



Gertrude Perlmann in her laboratory at The Rockefeller University in March 1973. Source: The Rockefeller University via [Wikimedia Commons](#). Used under CC BY-SA 4.0.

Gertrude Perlmann attended the German University of Prague and earned a Ph.D. in chemistry and physics. At twenty-seven, she emigrated to the United States and joined the department of physical chemistry at Harvard. She left Harvard in 1946 to continue her research at Rockefeller as a Commonwealth Fund Fellow. Perlmann published many articles on protein isolation and properties and collaborated with Rebecca Lancefield on the isolation and characterization of type-specific M antigen from *Streptococcus* strains. She moved up the ranks at Rockefeller and became a full professor in 1973, one year before her death. Perlmann is regarded as a pioneer of protein biochemistry, as she was one of the first scientists to emphasize the effect of phosphate groups on protein structure. Additionally, she used electrophoresis to discover the structure of egg albumin. Her background in physics and chemistry was the foundation for her groundbreaking research in pepsin protein chemistry at Rockefeller. She identified structural differences between pepsin and pepsinogen, its inactive form, and investigated how various factors influence enzymatic activity. In 1965, Perlmann was awarded the Garvan Medal of the American Chemical Society.

Marie Daly (1921-2003)

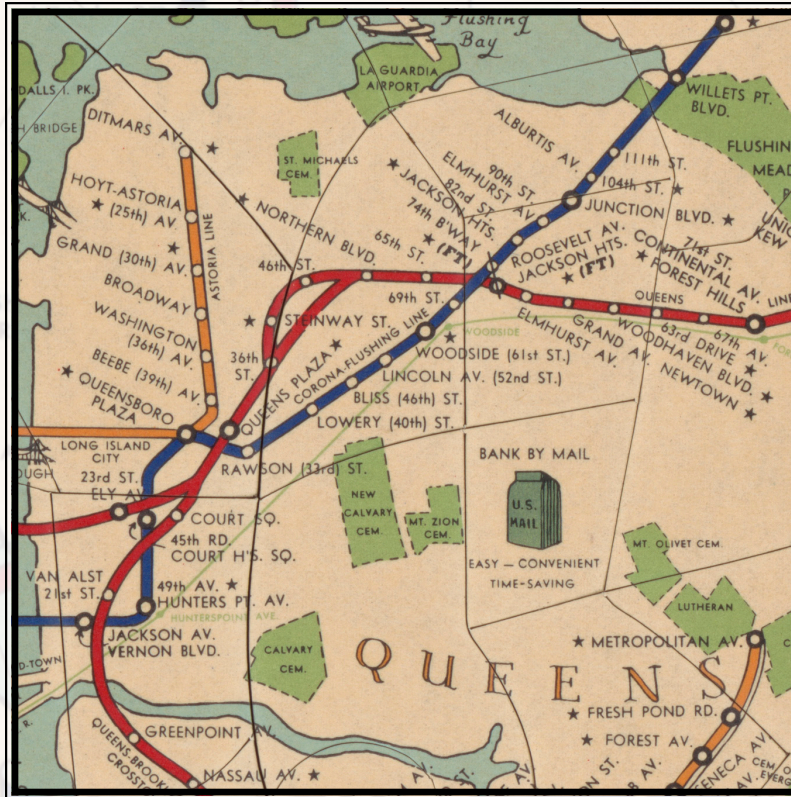
Marie Daly earned her Ph.D. from Columbia University in 1947 and became the first Black American woman to earn a doctoral degree in chemistry. While at Columbia, Daly studied how pancreatic amylase breaks down food. After receiving her Ph.D., Daly taught chemistry at Howard University and later joined the Rockefeller Institute to work with Alfred Mirsky on a postdoctoral research grant from the American Cancer Society. Her collaboration with Mirsky and Vincent Allfrey led to the discovery that RNA is needed for protein production. Daly left Rockefeller in 1955 and joined the Columbia University College of Physicians and Surgeons, where she studied the biochemistry of cholesterol and its relationship to hypertension with her collaborator Quentin Deming. She later joined Albert Einstein College of Medicine as an assistant professor in 1960 and would move up the ranks to a tenured appointment as full professor in 1971. Outside of the lab, Daly constantly fought for diversity and inclusion in science. She led efforts to recruit and train Black students at Albert Einstein, established a fund for Black science students at her alma mater, Queens College, and was known for mentoring minority students.



Marie Daly in her lab, circa 1970s. Photograph by Ted Burrows. Courtesy of Archives of the Albert Einstein College of Medicine. Source: [Digital Commons @ RU](#).

A (Freezing) Saturday in Astoria, Brought to You by Zohran Mamdani

By Mia Haraguchi, Stephen Thornquist, and Maya Wyse



Map of the New York City subway system, ca. 1954. Source: [Library of Congress](#).

During the 2025 New York City mayoral election, social media was filled with videos of the now-mayor, Zohran Mamdani, listing his favorite places to eat in Queens. The recommendations ranged from hidden gems, like a [Bangladeshi halal steam table spot](#) in Astoria, to neighborhood favorites, like Jackson Heights's [Kabab King](#). This was a very successful campaign strategy to characterize Mamdani as a New Yorker who lives—and eats—like his constituents.

It was also a gold mine of solid food recs.

So, on an unseasonably cold and snowy February day, *Natural Selections* decided to take the new mayor up on his suggestions and experience a Saturday in Astoria, courtesy of Zohran Mamdani.



Squinting into the sun outside Little Flower.



36 Av station, Astoria.



Outside Little Flower.



Inside Little Flower.

First Things First

Our day started from the Rockefeller University campus. In the spirit of Mamdani's pro-public transit policies, we took the R train from the Lexington Av/59 St station. We got off at the 36 Av station in Astoria, only a short walk from our first destination: [Little Flower Cafe](#), a halal coffee shop in Astoria.

Little Flower is definitely not a hidden gem. On one of the coldest days of the year, it was packed to the brim with Astoria locals enjoying a post-noon brunch inside the warm, minimalist dining room. We ate our pastries and drank our chai lattes huddled in the corner, eyeing the burnished concrete tables for an open spot that never materialized.

Some of the highlights included the firni donut, a play on the classic Indian dessert

of custardy rice pudding with cardamom; the turmeric bun, which was perfectly spiced, if a bit dense; and the persimmon danish. The chai latte was just the right amount of sweet and cinnamony but could have been a bit more flavorful overall, and the coffee was significantly better than what you can get from Great Performances (or your lab's coffee maker).

Overall, Little Flower is an excellent place for weekend brunch or late afternoon coffee, if you are looking to take a quick, several-hour break from your experiments.



Maya holding two paan rolls.

A Brief Interlude

We interrupted our regularly scheduled Astoria day for a brief excursion to Jackson Heights to try [Haideri Paan](#). None of us knew what *paan* was. In retrospect, not doing any research was somewhat of a mistake.

For the similarly uninformed reader, *paan* is a Southeast Asian digestive made from betel leaves. It can be filled with things like candied fruit, rose, raisins, cardamom, fennel, roasted coconut, sprinkles, and a variety of other sweet or aromatic foods. It's meant to be chewed whole, which we learned from a very friendly local as we attempted to pick open the betel leaf wrapping, and can either be swallowed or spit out. With its combination of sweet, bitter, and aromatic flavor, *paan* makes for a great palate cleanser, but it is not very well suited for lunch—as we had originally intended.

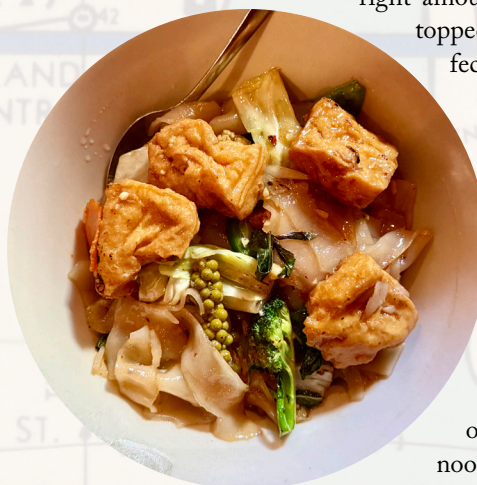
Slightly ashamed of our cultural ignorance, we took the train back to Astoria to try a different lunch spot.

And, Finally, Lunch

Back in Astoria, we got off the R train at the 36 St station to have lunch at [Pye Boat Noodle](#). At this neighborhood favorite Thai restaurant, we managed to squeeze ourselves around a table in the back.

We started our meal with an order of chive pancakes that were expertly crispy on the outside and perfectly gooey on the inside. This fried goodness unfortunately overshadowed our second appetizer, a relatively bland fried tofu with sweet and sour sauce.

The panang curry was a big hit among the main courses. It was aromatic, just the right amount of spicy, and came topped with the most perfectly cooked over-easy egg, which melted into the jasmine rice that accompanied the dish. The tofu pad kee mao was also a table favorite. If you order the Sukhothai noodles, however, do not repeat our mistake of asking for the wide noodles instead of the rice ones—or letting a single



From left to right: goi neur, toy



Thawing at Qahwah House.

One Last Thing

Having finally succeeded at eating lunch, we decided to head to our fourth and final food establishment. We took the N train to its last stop at Astoria-Ditmars Blvd and headed to [Qahwah House](#), a Yemeni coffee shop. Right in the entry, a large map on the wall of all the routes coffee beans have traveled over the last millennium reminded us that coffee was first cultivated in Yemen. The owners of Qahwah House must have traveled one of those very routes so that we could have a warm pour-over on a cold February day in New York City.

person's opinions sway your whole group. (Maybe we shouldn't renounce the [frigidity of rugged individualism](#) just yet . . .)

We also had to order what was perhaps the most controversial out of all of Mr. Mamdani's food recommendations: the *goi neur*. This salad made up of tiny cubes of cold, raw beef abundantly seasoned with spicy chilies is not everyone's cup of tea. But some of us enjoyed how its tangy taste blended with the chewiness of the raw meat and would consider ordering it again on a less freezing day.

Other than the coffee, we also tried the Adeni chai, which was nicely balanced and came in a big glass pot that purportedly served two, but in reality was more than enough for four people. The coffee house itself was surprisingly large, with a backyard space that seemed like it would have been very nice in better weather. The inside is also spacious and quiet—perfect for a Saturday afternoon of pretending to work on your paper while really just people-watching.

Once you have successfully written at least two sentences of your manuscript, you can head to [Ditmars Thrift Shop Donation](#) around the corner. This wildly eclectic store has something for everyone. We personally found a breathtakingly hideous sequined dress, some cat-eye sunglasses, and a wooden plaque with a live-laugh-love-esque message of encouragement (“... your mind is insanely cool ...”)—perfect for the senior grad student in your life.

Sated, warm from the chai, and armed with a myriad of discounted trinkets, we rode the N train back to Lexington Av/59 St, thinking that the new mayor might know a thing or two about the city—at least when it comes to food. ■



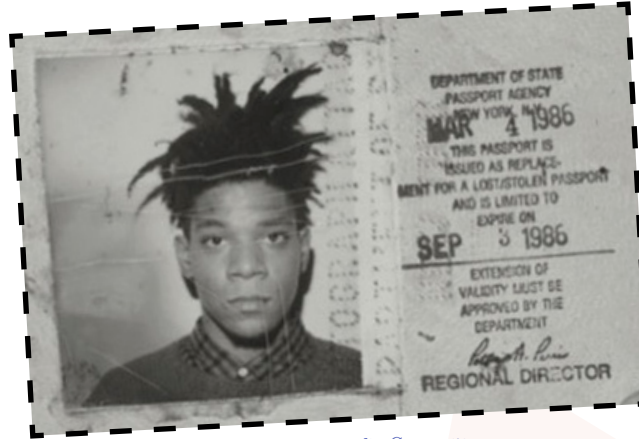
Fu pad kee mao (also pictured above), panang curry, Sukbothai noodles.

Basquiat: A Griot and His Skulls

By Juan Sebastián Andrade-Martínez



Untitled (1981)



Basquiat's U.S. passport. Source: [Wikimedia Commons](#).



Hollywood Africans (1983)

It's hard for a piece of art to disturb me, and even harder for me to explain why it does. But some art perturbs your very soul, producing a feeling that rationality cannot dispel. For me, this was *Everywhere at the End of Time* by the Caretaker, a fantastic take on how dementia destroys the mind and how a person lives through it as their memories mangle and degenerate into nothingness. That's what disturbs me most: you know what's coming, and you know you can't do anything about it. At some point you stop caring—because your brain forgot how to care—and just embrace the ride towards death. Sometimes I wonder: was this what Basquiat was feeling when he painted *Riding with Death*?

Jean-Michel Basquiat, like many children of immigrants, was a crucible of cultures. He was born in Brooklyn in 1960, but his story doesn't begin there. Part of it begins in Port-au-Prince, where his father Gérard was born before he fled to the U.S. in 1955 due to political turmoil.¹ It also begins in Puerto Rico, where the parents of his mother Matilde were born. Further, it begins in millennial African cultural traditions, some of which he saw in historical

artifacts during trips to museums and galleries with his mother, some of which were co-opted by European art at the onset of the twentieth century. Yet another part of it begins at the death-laden streets of Guernica, whose depiction by Picasso was one of Basquiat's earliest artistic influences.

His mother's love of art and fashion and his father's love for jazz would leave a strong mark on the young Basquiat. A further influence unexpectedly manifested because of a car accident. In 1969, he was hit by an automobile when playing in the street, leading to a one-month hospitalization. To pass the time, his mother bought him a copy of *Gray's Anatomy*, from which he derived a fascination for the human body.

Basquiat's late childhood and adolescence were turbulent. After his parents divorced and his mother was institutionalized for mental health reasons, he lived with his father and his two siblings until he was seventeen years old. A school dropout, Basquiat started down his road to fame with SAMO (standing for either "same old" or "same old shit"), a project he initiated with his high school friend Al Diaz during the

late 1970s. In Diaz's words: "We began to spread our satirical message of SAMO through graffiti; it would very quickly develop into a vehicle for voicing opinions on the world around us as we observed it.

"I don't know how to describe my work, because it's not always the same thing. It's like asking somebody, asking Miles [Davis], 'How does your horn sound?' I don't think he could really tell you why he plays this at this point in the music. You're sort of on automatic."

—Jean-Michel Basquiat

We were creating an entirely new style of graffiti. It was literate and message-based.” With texts like [“SAMO©,,, AS AN END TO THE 9 TO 5 “I WENT TO COLLEGE” “NOT 2-NITE HONEY”,,,BLUZ’,,,THINK,,,”](#), [“SAMO© AS AN ALTERNATIVE TO GOD”](#), or [“SAMO© DOES NOT CAUSE CANCER IN LABORATORY ANIMALS”](#), the duo tried to convey a message, as opposed to just presenting a graffiti tag. “We were commenting on whatever we were dissatisfied with, or thought was funny—whatever! Consumerism, religion, politics. This was all from the mind of someone who was seventeen and nineteen years old—we were very young minds,” [said](#) Diaz in a different interview. Albeit only a yearlong project, this idea of words

having a powerful meaning would strongly influence all of Basquiat’s later work.

The 1980s were Basquiat’s time to rise and to fall. He started the decade homeless, peddling t-shirts and postcards and sleeping where he could. However, through his frequenting of Club 57 and Mudd Club, two lower Manhattan nightclubs attended by a new generation of artists and musicians (notably Keith Haring), he was able to promote his art and eventually enter the city’s artistic scene. Basquiat had his first group exhibition in 1980 at the Times Square Show and his first solo in 1982 at the Annina Nosei Gallery. [Untitled](#) (1981) stands out from this latter exhibit. The piece shows a carefully drawn skull with a downcast, depressed look. It



[Flexible](#) (1984)



Andy Warhol, Jean-Michel Basquiat, Bruno Bischofberger, and Francesco Clemente in New York on September 15, 1984. Source: Galerie Bruno Bischofberger via [Wikimedia Commons](#). Used under [CC BY-SA 4.0](#).

is made up of multiple parts sewed together, hinting at recent damage or trauma, and stands in front of a background resembling the New York subway. In a way, it shows the many faces and struggles that coexisted inside Basquiat during these turbulent years early in the decade.

One of those struggles, one Basquiat would concern himself greatly with, was the issue of African American representation in art. In his own words: “I think there’s a lot of people that are neglected in art. I don’t know if it’s because of who made the paintings or what, but black people are never really portrayed realistically in—not even portrayed in—modern art enough, and I’m glad that I do that. I use “black” as the protagonist because I am black, and that’s why I use it as the main character in all the paintings.”² His 1983 piece *Hollywood Africans* (on display at the Whitney Museum here in New York) depicts Basquiat, along with graffiti artist Toxic and musician Ramellzee, in a style which has been linked to Roman depictions of Emperor Augustus.³ This power display, along with background texts that can be associated with the film industry and African American roles in it, calls attention to the lack of representation of Black artists in Hollywood. While not present in this painting in particular, Basquiat’s most frequent motifs—the three-pointed crown (seen, for example, in *Red Kings*) and the West African *griot* (seen, for example, in

Flexible)—can be understood both as a celebration or enthronement of African American art and as a reflection of his own role in a white-dominated art scene.

The 1980s also marked the beginning of Basquiat’s close friendship with Andy Warhol, who would act as a *friend and father figure* to the young artist. Although they had briefly met before, art dealer Bruno Bischofberger formally introduced the two of them in 1982. On the same day, Basquiat produced *Dos Cabezas*, a painting of a polaroid picture Warhol had taken of the two of them, and gifted it to Warhol. The two worked together and inspired each other for a few years, up until their joint exhibition, *Paintings*, shown at the Tony Shafrazi Gallery in New York in 1985. The exhibition and their friendship were strongly criticized by the media, which *claimed* that Warhol was using Basquiat to gain relevance and, in the process, hindering the latter’s development as an artist. This eventually led to their separation. Among their many collaborations, Basquiat and Warhol *both cited* the piece *Ten Punching Bags* (*Last Supper*) as a personal favorite, made up of a series of ten punching bags decorated with drawings of Jesus Christ and multiple uses of the word “Judge,” which Basquiat complemented with his personal motifs.

Warhol’s sudden death in 1987 would ultimately lead to Basquiat’s own. Although



Dos Cabezas (1982)

they had grown apart since 1985, Basquiat’s devastation over Warhol’s death compounded the drug abuse problems he had been having for a few years. He ultimately died of an overdose in August 1988. One of his last paintings, the aforementioned *Riding with Death*, shows a black figure in a style reminiscent of cave paintings, being dragged by a white skull, *believed* to be a metaphor for the repression of and discrimination against African societies and their descendants that greatly affected Basquiat throughout his life. The black figure flails its arms while the skeleton inexorably carries it somewhere. As with *Everywhere at the End of Time*, I see in this painting the dread of knowing what’s coming and knowing you can’t do anything about it.

Maybe Basquiat felt this all his life. Deep down, Basquiat had always been the same talented child drawer who wanted to be famous. He was eclectic in his influences, a true lover of art, a rebel in both style and subject, and one of the most influential American painters of the twentieth century. His career was a flash in the bigger scheme of things, but one whose radiance glows as strong and relevant as ever in contemporary America. ■



Basquiat’s grave. Photo by Chenyu Jiang.

Notes

- 1 Eric Fretz, *Jean-Michel Basquiat: A Biography* (Bloomsbury Publishing, 2010).
- 2 Larry Warsh, ed., *Basquiat-isms* (Princeton University Press, 2019).
- 3 Dieter Buchhart, *Jean-Michel Basquiat* (Editions Gallimard, 2019).



FICTION

Borges's Eleven

By James S. Lee

When ChatGPT was first made public, I amused myself by asking it to combine the styles of disparate authors. I had just finished reading *Ficciones*, so I asked ChatGPT to rewrite popular films in Borges's cerebral voice. The mental image of Borges reworking *Star Wars*—carefully imbuing it with ideas of the infinite, mirrors, and mazes—was disproportionately funny to me during those months of the lockdown.

It goes without saying that I was in a deep state of dissociation.

One mashup in particular caught my attention. I had asked ChatGPT to pretend it was Borges writing a version of *Ocean's Eleven*. I present its response in its entirety:

In my version of *Ocean's Eleven*, Mooney Heistman [author's note: For reasons that were hilarious to me then, I asked ChatGPT to refer to George Clooney's character as "Mooney Heistman"] and

his team of expert thieves plan to pull off the most audacious heist in history: stealing the concept of infinity from the mind of a reclusive mathematician.

But as they begin to put their plan into motion, they begin to realize that the true nature of infinity is more complex and elusive than they could have ever imagined. As they delve deeper into the mysteries of the infinite, they find themselves facing impossible challenges and paradoxes that threaten to unravel their entire operation.

At the heart of their quest is the enigmatic Mooney Heistman, a man whose own understanding of infinity is put to the test as he navigates the twists and turns of the heist. As he grapples with the complexities of the infinite, he must also confront his own limitations and mortality.

In the end, Mooney Heistman and his team must decide whether the pursuit of infinity is worth the risk, and whether they are willing to pay the ultimate price to achieve their goal.

This was so stupid it was kind of inspiring. *The concept of infinity from the mind of a reclusive mathematician . . .* The line could have been at home in *The Hitchhiker's Guide to the Galaxy*. By imitating Borges, ChatGPT landed in a style closer to Douglas Adams: More [Babel fish](#) than ["The Library of Babel."](#)

Could I do any better? I lay on my bed and imagined myself as Borges writing a version of *Top Gun*:

Two gauchos are knife fighting on a plain. As one delivers a killing blow to the other, there is an eruption of blood, and for an uncertain moment they do not know who has killed and who has lost. But—instead of ending, the moment becomes interminable, and in that infinite moment, they realize they have met on the battlefield endless times:

In 48 B.C., a man defeats his rival in Pharsalus, forcing him to flee to Egypt where the only shelter his head will find is inside a silver platter.

And: In 1586, two monarchs linked by blood plot each other's assassination, justified that the other's rule is illegitimate, destabilizing, and above all, un-Christian.

And: During a particularly delirious Carnival, a madman entombs a scandalmonger who shouts, "*For the love of God, Montresor!*" as the final bricks are laid.

And: In 1986, they are dogfighting in the air over the SS *Layton*. In endless permutations—split by the prism of a violent sky—each man is, for a lifetime, Maverick, or Iceman, or one of the faceless pilots of the MiGs, or Hollywood, or back to Maverick again, or . . .

As these two fight, every strike and counter-strike mirrors and doubles itself across time. For as much as their fight is with each other, it is the timelessness of conflict itself that traps the two in an endless—

Just then, the clattering of pots and pans as my neighbors on 81st Street climbed out onto their roofs, fire escapes, and windowsills to cheer our healthcare workers snapped me out of my writing.

I looked at my draft. It was going as well as my postdoc: There were moments that I could get excited about, but ultimately it was unoriginal, uninventive, and uninspired.

I was in a despairing mood, as it seemed that to be a good scientist nowadays you had to be able to (1) be good at running experiments, (2) present your work well enough to get people interested in your work, (3) write papers, (4) illustrate the figures for your papers, (5) edit and revise your papers, (6) write fellowship and grant proposals, (7) read the literature and attend seminars, (8) connect and network with colleagues, (9) mentor and grow as a teacher, (10) engage in novel collaborations, and (11) self-therapize when (1-10) inevitably hit stalls and stumbling blocks.

In other words, you had to be eleven people. I imagined myself split into those eleven people, all of them chasing *the concept of infinity*—an infinity of tasks, ha! I got dizzy and distressed and dozed off into a dream.

In my dream, the story of Borges's Eleven took on a different shape. Gone was the reclusive mathematician, and in fell a very Borgesian setting: a labyrinth.

Eleven of us entered the labyrinth, which was of an inconceivable size. The eleven figures were split versions of myself: sci-

entist, thief, layabout, misanthrope, colonist, immigrant, writer, con-artist, esotericist, larrikin, and prim city-dweller. We had all entered the labyrinth to steal, from its center, a safe containing all objects in the universe.

(It is simultaneously confusing, true, and trivial that this safe contained, amongst its infinite contents of the universe, a labyrinth of inconceivable size with eleven men racing towards its center, at the heart of which was a safe containing, amongst its infinite contents of the universe . . .)

Importantly, we were *racing* to steal from this safe. There would only be one winner, and the path to the labyrinth's center would most assuredly be violent. We were all drawn to the center as we each remembered exactly *one-eleventh* of what it was like to be a whole being—and we felt those ten missing parts as phantom pains of unimaginable grief and wonder. Each of us had sought balms around the world until, through convergent but slightly distinct paths, we were pointed by shamans, mad kings, discredited research, etc. to the labyrinth.

Getting to the labyrinth meant navigating a maze in and of itself: The labyrinth was secluded on an isle in an archipelago of a million islands. A boatman, who knew which island housed the labyrinth and how to get there, had to be paid. The man's eyes, ears, and tongue were mutilated, yet he mysteriously navigated the wheel by the feel and churn of the ocean beneath his ship's rudders. Whether his physical afflictions were self-induced, to prevent him from giving up the secret location of the labyrinth, or the results of torture that apparently failed (as his was still the sole path to the labyrinth) was unclear.

Each man paid the boatman with the item that pained them most to lose: a signed first-edition copy of *Lincoln in the Bardo*; the voicemails of a deceased grandfather; a parakeet by the name of Dante; a murder-weapon that, if turned to the authorities, would mean the electric chair; a 2009 Honda Accord . . .

One man, inexplicably, paid with a pendant of Willie from *Free Willie*.

All of these tokens the boatman accepted, and the eleven were ferried to their hidden destination.

Inside the labyrinth, time of an uncertain length went by.

As in any good stress dream, I felt myself chased from behind. Was it one of my ten other selves (come to eliminate me from the competition) or some Minotaur whose peace we had disturbed?

I pressed on, always pursued by my assailant, through hallways and dark bends.

In a few heart-pounding moments, I found myself down a dead end, with no other choice but to turn around, with my back to the wall, and brace myself to fight. But each time, my assailant retreated to someplace unseen instead of boxing me in.

Perhaps they intended for the maze to tire me, to wear me down to the point where I would no longer have the will to turn around to brace for a fight, and instead would simply fall kneeling—to make easy the job of a knife or garrote.

But the maze had not fully tired me yet, and I remained desperate to reach its center.

While the shamans, mad kings, texts, etc. all agreed on the existence of a safe containing all objects in the universe, they did not agree about what *specifically* would happen if a person accessed the contents of this safe.

Those with the greediest and narrowest minds thought no further than the access this would provide to all the world's wealth.

Others, the literalists, could not accept that all objects in the universe could fit into a safe. They posited instead that the safe, maze, and universe were one and the same—that the labyrinth folded out, over, and back in on itself so as to contain and involve the entire universe.

Some, through clouds of opium smoke, suggested that the safe provided access not just to all of the physical objects in the universe, but to thoughts, dreams, and abstractions as well. (After all, don't abstractions reside *in some way* as contents of the universe?)

Ever unhelpful, but not without point, the nihilists believed it would be an aimless victory to own such a safe. They argued that it would take a person an infinite amount of time to find any specific thing within the safe, as it would be mixed in with all the other infinite contents of the universe.

But I, the con-artist and therefore the least deceived of them (as you can't con a conman), knew the safe to be a simple and pragmatic thing. Neither literal nor metaphorical, it represented totality and completeness, and so it would serve my purpose. By reaching it, I would finally be whole and able to end this tired searching.

As I made my way deeper into the structure, walls and rooms of the labyrinth began to shift. Elevators took me horizontally then vertically through nonsensical paths.

Passing through a series of rooms, I arrived at a foyer with a double helix staircase leading upwards to floor upon floor. Such were the dimensions of this structure that, looking up from the hollow core of the staircase, I could not discern an end to this repetition. Each floor had to be checked for a path forward, and on the 3,435th floor I finally found a means of egress.

Here then, at last, was the center of the labyrinth.

I did not see the blow, but I felt tendrils of incendiary pain spreading like a flash fire across my spine, shutting me down. It is usually true that you can't feel pain in your dreams... unless there is something in real life causing the pain. Like, perhaps, falling asleep on your arm and cutting off its blood supply. I had, in my restless sleep, cut it off entirely, like some general cutting off reinforcements to an enemy camp.

I awoke feeling a not-inconsiderable amount of guilt, for I realized what was in the safe. Indeed, I had placed it there. And I realized that, by waking, I had removed it from those eleven men and ruined their hopes entirely.

In the center of this scientist's mind, made reclusive by the lockdown, was what was to those eleven men infinite: that is, this story, which I myself had stolen from a plagiarist machine. ■



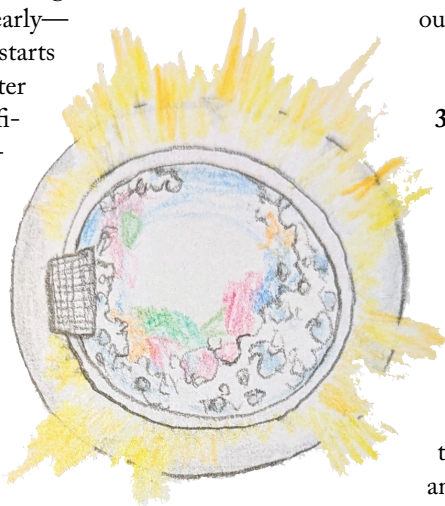
Making Scents of New York City

By Maya Z. Wyse

A New Yorker presents and rates seven of their most salient olfactory experiences, in no particular order.

They call it the city that never sleeps, call it high-energy, say it grows and even eats people alive. Well, as a near-living entity, I can tell you a couple more things it does: it breathes, and when it does, it smells. Considered by some to be the “(s)center of the universe,” you’re bound to find what you’re sniffing out on these streets—it’s just a question of how many stops you make along the way. Without further ado, here are the scents I recommend you check out in your time here, and those to approach with caution . . . if you dare.

1. The smell of spring is a seasonal pop-up that can reliably be found all around the city between April and early June, generally more concentrated in parks and tree-lined streets. But nothing is as special as catching it early—sometimes, as March starts getting old, and winter starts feeling like it’s definitely been around longer than last year, you’ll catch a whiff just briefly. It hasn’t set up shop yet, so it’ll just be a moment at first, something sweet and deeply refreshing, something that carries the promise of a warm yellow sun through those



bright green leaves, of magnolia blooms and birds singing again. True, some argue that you can only get the “authentic” experience beyond the city limits, but I say its contrast against the city’s ceaseless barrage of sensation—car horns and neon lights and psychic readings galore—makes it all the sweeter. 5 out of 5 stars.

2. Alas, not all seasonal pop-ups are pleasant. When they warned us of global warming, of the melting of the ice caps, I didn’t think it would have a scent. Yet, as the city begins to thaw at last, and the soot-blackened mounds of snow start to melt, they begin to release (like the glaciers of yore) untold dangers held captive for so long. And in NYC at least, let me tell ya, they STINK! Stale, back-of-throat-scratching car exhaust and too-dark urine (we hope that’s dog) and finally rotting food scraps, a glorious symphony that we, the city, created in harmony. A rare occurrence in NYC, but not one I’d recommend seeking out. 1 out of 5 stars.

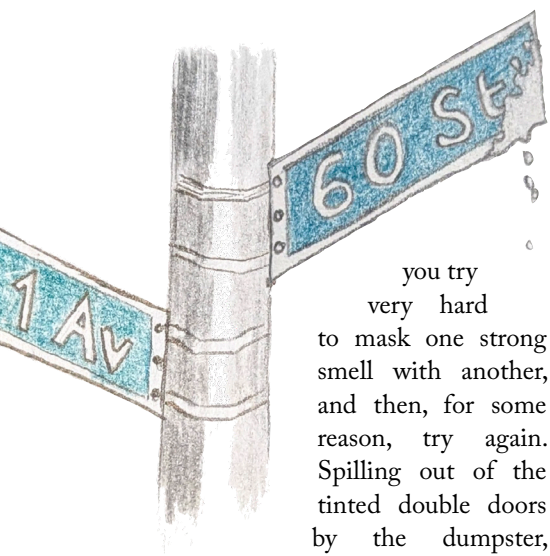
3. First, you are engulfed in steam, then a gentle warmth, then cautiously you breathe something clean and soft-scented—maybe lavender or eucalyptus. Strange for a moment to encounter this smell, unadvertised and unmarked, hovering by yet another cool

brick edifice, until you spot a sliver of basement window, fluorescent lights, thrumming laundry machines. You remember everyone who has ever cared for you, made your bed, folded your clothes, made you warm and safe and dry. 4 out of 5 stars.



4. Shit! That one’s shit (and again you find yourself hoping it’s dog). Aaand yep, there’s a bit of it in the treads of your shoe. God damn it, you thought you were better than this. How can an animal that primarily subsists on kibble do *this*? I mean, it’s indescribable. More honestly, it is very much describable, but you’ve been trying not to breathe deeply since you got that first fresh whiff. Maybe if you just . . . yup . . . just scrape the bottom of your shoe right there on the curb . . . 0 out of 5 stars.

5. There is a particular spot, outside the strip club on 60th St between First and Second Avenue, which hosts an even more particular smell. One that you only get when

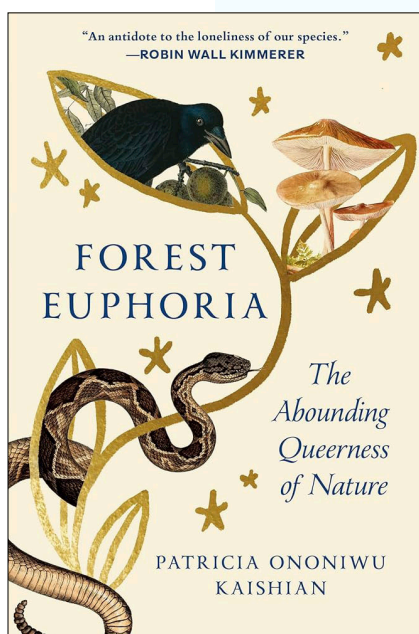


you try
very hard
to mask one strong
smell with another,
and then, for some
reason, try again.
Spilling out of the
tinted double doors
by the dumpster,
you'll get top notes of
bleach, cologne, chlorine, and
something sticky. Underneath, a base note
that can't entirely be masked, although it
might be entirely imagined; the smell of
lust and bodies, booze and bodies again.
I hear this one is an acquired taste, and
I am just a little bit afraid of the people
who have put in that work. Hey, it's cer-
tainly unforgettable! 0 out of 5 stars.

6. The smell of baked goods is abundant
and can be found all around the city, but
I come to you today with a niche rec-
ommendation, a spot that you have
to work to get to but is worth the
effort. Crossing the Queensboro
Bridge by bike or by foot, you'll
find, just as Queens looms be-
neath you, that the smell of
salt and tar is hushed for a
moment by the scent of fresh-
baked bread. Yeasty, hearty, a
hint of caramel and butter, and a
pleasant mystery of how this smell
found you here. Hours are unpre-
dictable, but when it's there, this
is where it will be. 4 out of 5 stars.

7. You may not notice it when
you're in the subway, but always do
when you find yourself on top of a
subway grate and it blows its hot
breath up from under you. There
is a city underneath this city spew-

ing old tunnel air and track grease and
rats and rubbish and sweat from anyone
just passing through, and it is a wet, warm
smell that pushes itself up through
the grates. It is evidence of prog-
ress and of old money, of an
organism running out of new
money, and of everything the
city stands for. And a voice in
the back of your head that sug-
gests, kind of unreasonably (but
then again, maybe not),
that the more time
you spend breath-
ing it, the closer you
get to your death.
3 out of 5 stars. ■



BOOK REVIEW: NONFICTION

Forest Euphoria: The Abounding Queerness of Nature
By Patricia Ononiwu Kaishian

The line between humans and nature is beautifully blurred in Patricia Ononiwu Kaishian's *Forest Euphoria: The Abounding Queerness of Nature*. Kaishian's training as a mycologist and her lifelong connection to the outdoors culminate in a voice that compels the reader to view nature and oneself in all of our variable and dynamic ways. With scientific evidence and personal anecdotes, Kaishian explores the non-conforming essence of nature, including non-heteronormativity and the nuances of sex in biology. The behaviors of fungi, plants, and animals are often studied through the lenses of evolution and adaptations, but among humans, these conversations and perspectives are less cut-and-dried. By pairing these real-world examples with discussion of the way humans view these concepts in the context of our society, readers are left with the provocative questions: what is natural, and who or what gets to decide that it is so? This book levels the playing field between humans and the other life forms that inhabit our planet—nature decides what is natural, and nature doesn't require any explanation.

—Lola Neal

Looking for Faces in Flowers During the Pandemic

By James S. Lee



The flowers of Manhattan kept me sane during the pandemic. Over the five months of the lockdown and gradual re-opening of New York City, they were my substitute for company, and I enjoyed myself (as much as one could during the quarantine) by taking portraits of them.

Over this time, I learned a bit about these flowers—their names, seasons, locations, and gardens. These tidbits, more than anything else during the pandemic, have stayed with me. While I and others have memory-holed much

of the lockdown, I can recall, vividly, where each of these photos was taken.

When I went out to photograph these flowers, I found that lowering the light sensitivity of my camera and shooting with a high sun allowed me to isolate the flowers and make them look as if they were floating in a sea of darkness. It felt to me a little like how we all were during that time, I guess.

Elsewhere in this issue, I share a fictionalized version of how I went through the pandemic. Here, I wanted to share an ac-

tual version. Though, even now, I'm not entirely sure what drew me to the flowers during the lockdown. The flowers were pretty and I saw faces in them—sure. But I think there was something else I was searching and hoping for each time I went outside, looking for new flowers. I think I was looking for images that would help me believe that even in isolation—without the care or connection of others—there is just an inherent beauty in being.

For all those lost, or who experienced loss, during the pandemic. ■



*Dog Rose
91st Street Garden
June 7, 2020*



*Petunia
Rockefeller Campus
June 22, 2020*

Top: Camellia, 91st Street Garden, June 23, 2020

Center: Dogwood, Rockefeller Campus, June 20, 2020

Bottom: Dahlia, Conservatory Garden, June 9, 2020



Top: Rose, Rockefeller Campus, July 2, 2020

Center: New Guinea Impatiens, Shakespeare Garden, June 18, 2020

Bottom: Peony, 91st Street Garden, June 7, 2020



Hydrangea
Carl Schurz Park
June 26, 2020

Narrowleaf Evening Primrose
91st Street Garden
June 23, 2020



*Top: Peony, 91st Street Garden,
June 7, 2020*

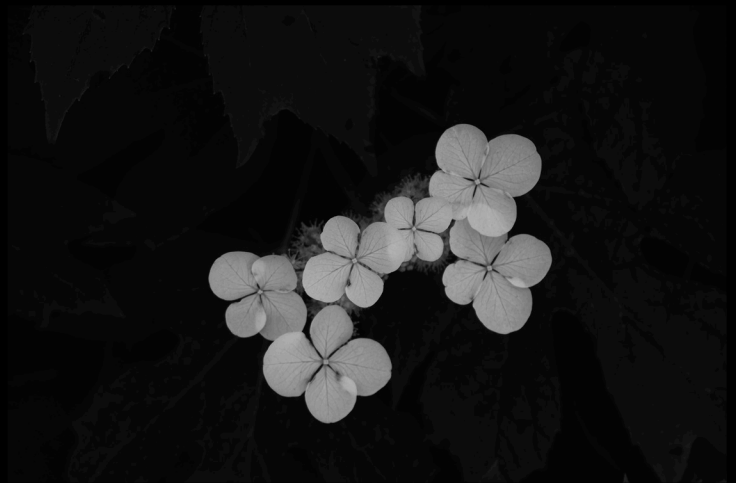
*Bottom: Rose, Shakespeare
Garden, June 18, 2020*



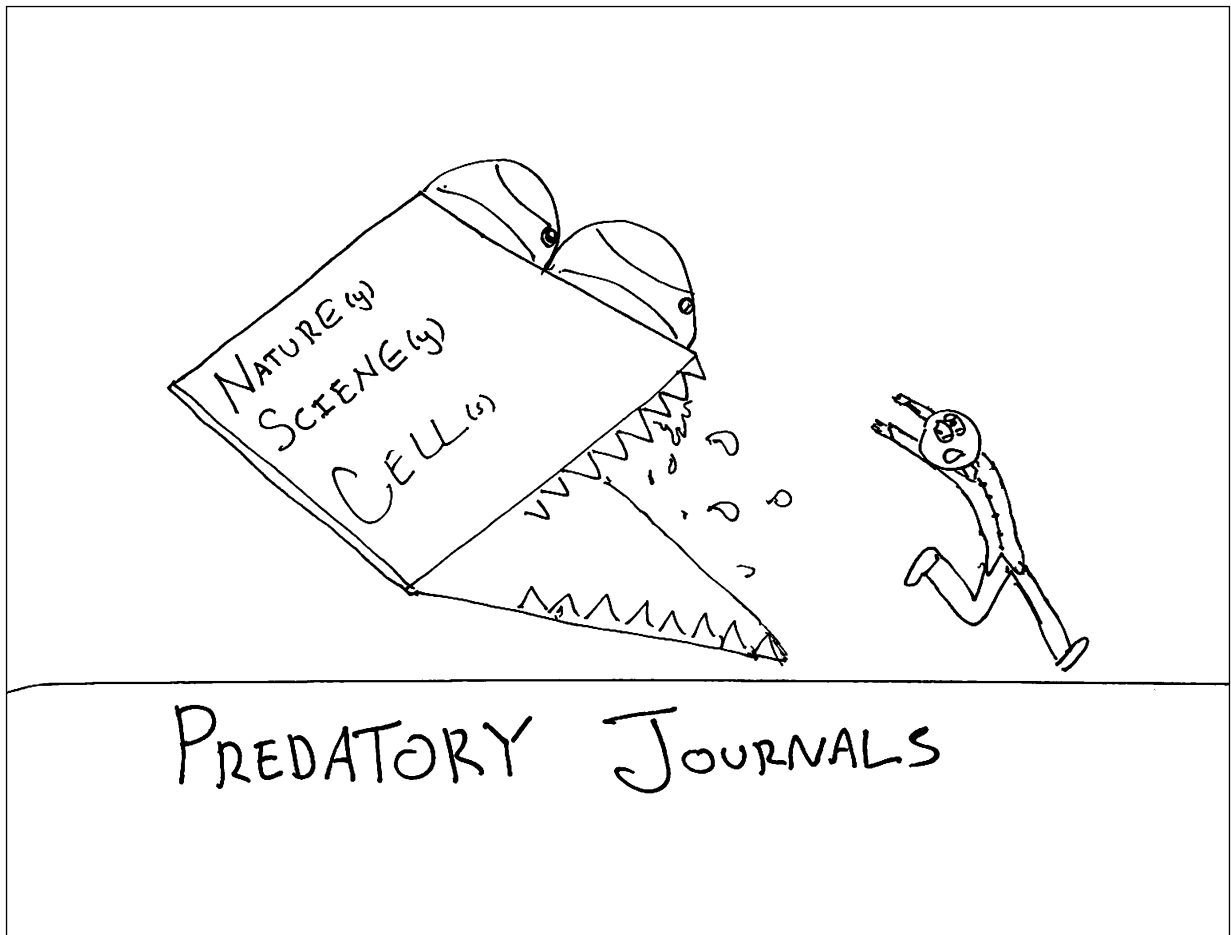
*Roses
Carl Schurz Park
May 30, 2020*



*Rose
86th Street
June 13, 2020*



*Top & center: Hydrangea,
Rockefeller Campus, June 22, 2020
Bottom: Hydrangea, Cherry Walk,
June 23, 2020*



Comic by Alex Stuart