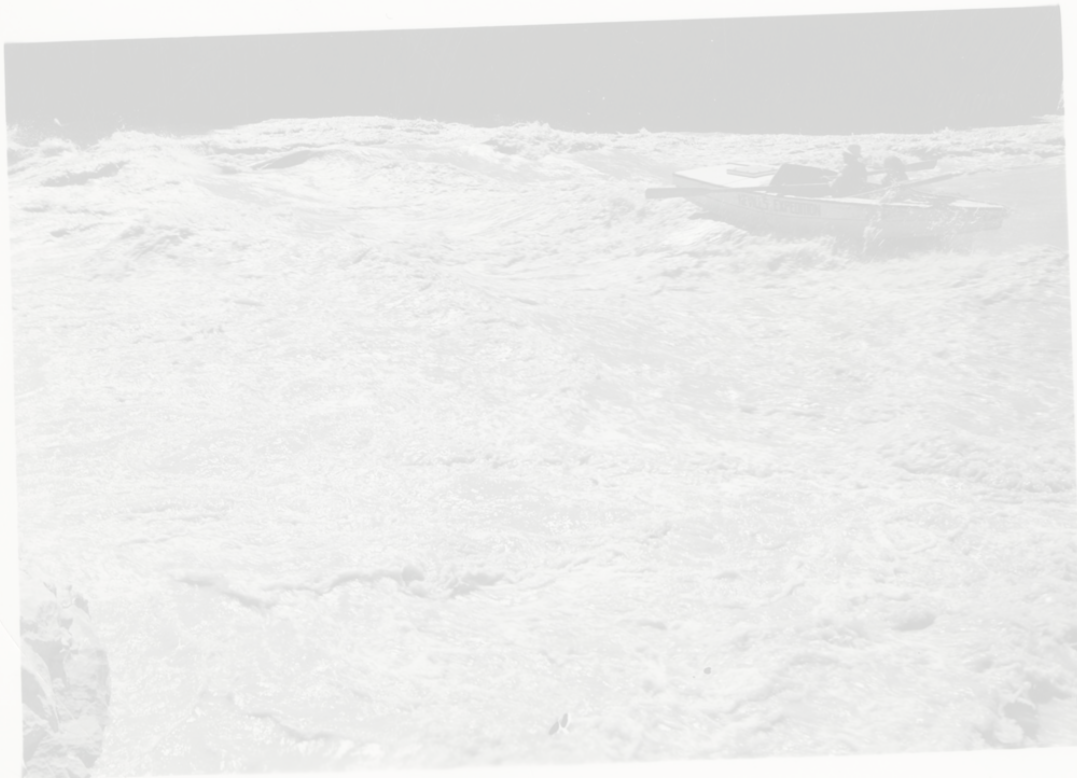




The Wild Ones

PEOPLE SAID THAT WOMEN HAD NO PLACE IN THE GRAND CANYON AND WOULD LIKELY DIE TRYING TO RUN THE COLORADO RIVER. IN 1938, TWO FEMALE SCIENTISTS SET OUT TO PROVE THEM WRONG.

MELISSA L. SEVIGNY



PROLOGUE

The river had cut into the plateau, or else the plateau had risen around the river. No one could say for sure in 1938. But what did it matter how it formed? It was *there*, this sunset-hued cleft of stone in the high country of Arizona. A warning. A challenge.

An Englishman who toured northern Arizona that year declared, “Out here is a country almost without a history,” a fantastical landscape of weird pinnacles, sheer cliffs, and menacing canyons. He was wrong, of course. The Grand Canyon had a history, printed in lines of pink and beige down its mile-deep walls, with trilobites as punctuation. Generations of Navajo, Hopi, Zuni, Havasupai, Hualapai, Southern Paiute, and Yavapai-Apache had called this place sacred and considered it home. For some of them it was the place of origin, where all humankind arose.

Tourists at Grand Canyon National Park—numbering more than 300,000 annually by the end of the 1930s—did not think of it that way. They came to the South Rim to lean over the low stone walls and gape at the Colorado River far below, a loose silver thread in a tapestry of stone. They gasped, they marveled. The river was a wild place, maybe the last wild place in America. Tourists thought of it as untrammelled, untouched, and nearly impossible to explore. And after they saw it, they went away.

Dams, though, had begun to tame the river, especially since the Boulder Dam (renamed the Hoover Dam in 1947) slammed shut its gates in 1936 and knotted the river into Lake Mead along the Arizona and Nevada border. River runners had begun to float the

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Colorado, but not many, and not very often. Only a dozen expeditions—just over 50 men, all told—had traversed the Grand Canyon by boat since John Wesley Powell led a government-funded expedition to map the river in 1869, during which boats were destroyed and three men vanished. Those who ventured into the canyon emerged with stories of wreckage flung along the rocks and skeletons tucked into stony alcoves clutching withered cactus pads in their bony fingers. The Colorado was considered one of the most dangerous rivers in the world.

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When an expedition arrived in the town of Green River, Utah, in the summer of 1938 with an ambitious itinerary in hand, local residents and veteran river runners were quick to shake their heads. The group planned to row the Green River 120 miles to its confluence with the Colorado, then drift through Cataract Canyon, the fabled graveyard of the Colorado, where whitewater and hidden rocks conspired to smash boats to smithereens. They would resupply at a landing site called Lees Ferry, near the Utah-Arizona border, and then enter the Grand Canyon, where the only way to communicate with the outside world would involve a long, grueling hike to the rim. Ninety miles downstream, they'd have one last chance to break—abandon the river—at Phantom Ranch. After that, there'd be no choice but to make the harrowing descent downstream to Lake Mead. If they did, they'd have traveled more than 600 miles by river.

“You couldn't pay me to join them,” declared one river rat.



It was high summer, a season when broiling heat gave way to black, booming thunderstorms. The Green River was already muddy and swollen with rainwater. The Colorado ran at nearly full flood stage. In addition to terrifying rapids, the expedition's members would face heat, hunger, and fatigue.

Not least among the journey's many dangers, according to “experienced river men” who refused to give their names to the national newspapers covering the expedition, was the presence of women in the party. Only one woman had ever attempted the trip through the Grand Canyon. Her name was Bessie Hyde, and she'd vanished with her husband, Glen, on their honeymoon in 1928. Their boat was found empty. Their bodies were never recovered.

Unnamed sources told reporters that the two women in the crew were “one of the hazards, as they are ‘so much baggage’ and would probably need help in an emergency.” They were scientists—botanists, to be precise. “So they're looking for flowers and Indian caves,”

a river runner said. “Well, I don’t know about that, but I do know they’ll find a peck of trouble before they get through.”

In fact, Elzada Clover and Lois Jotter had come from Michigan with much hardier plants in mind. Tucked into side canyons, braving what Jotter called “barren and hellish” conditions, were tough, spiny things: species of cactus that no one had ever catalogued before. Clover and Jotter would become the first people to do so—if they survived.

But the newspapers didn’t much care about that. Journalists crowed that the women had come to “conquer” the Colorado, and they fixated on the likelihood of failure. In the privacy of her journal, 24-year-old Jotter had a one-word reply: “Hooey.”

1.

On her birth certificate she was Mary Lois Jotter, except that a clerk had transposed the a and r and given her a mangled first name—Mray—that no one could pronounce. The state of California was not particularly concerned with correcting the mistake. It took her parents some two decades to amend the spelling on official records. No matter: She preferred to go by Lois anyway.

Jotter spent her teenage years in Michigan, roaming the woods on Sunday afternoons, delighting in the exotic plants of a botanical garden near her home. Her father, E.V. Jotter, was a forester from a German Mennonite family. Her mother, Artie May Lomb, had come from a lineage of distinguished engineers. They encouraged, even expected, their daughter to love science. She could trace her desire to be a botanist back to a particular moment, when her father pointed out *Acer negundo*, the box elder maple. She was seven.

She studied biology and botany at the University of Michigan in Ann Arbor and plowed ahead with her Ph.D. work in a department that had only two female faculty members. Jotter's focus was the cytogenetics of *Oenothera*, the evening primrose. She spent summers as a camp counselor in Michigan, and she learned to row a boat so she could rescue any kids who toppled into the lake. In 1937, while still in graduate school, she worked in Yosemite as a National Park Service naturalist.

As much as Jotter loved the outdoors, she thought of herself as bookish and a bit of a klutz. She wasn't particularly adventurous—certainly not as much as her mentor, Elzada Clover, a professor at the university. The two women shared an apartment in Michigan for two years and were friends as well as colleagues. Born on a Nebraska farm, Clover was drawn to the open spaces and fierce beauty of the desert. She spent the summer of 1937 collecting plants in a lonely corner of Utah. There she met a river runner named Norman Nevills in a dusty town called Mexican Hat. Clover suggested that they take mules into the Grand Canyon to collect plant specimens for research. Nevills was enthusiastic. But, he said, why not take boats instead?

Each agreed to invite two more people on the expedition. Nevills found Don Harris, a young engineer with the U.S. Geological Survey, and William Gibson, an artist and photographer from San Francisco. Clover invited Gene Atkinson, a 25-year-old zoologist at the University of Michigan. The final slot needed to be filled by a woman, for the sake of propriety: It wouldn't look right for Clover to be the only female in the group.

At first, Clover hesitated to invite Jotter. As Jotter put it, "She knew my parents had no spare daughter." But Jotter jumped at the chance to go; what botanist could resist the lure of collecting material from a place as remote and mysterious as the Grand Canyon? The prospect caught her imagination. Jotter had to request time off from her thesis work, and she needed her father's permission to go, written up in a formal letter to show the head of the botany department at the University of Michigan. She also needed \$200 to cover her share of the cost of the expedition's boats and supplies. She wrote her family a flurry of letters in the months before the trip.

"If I weren't almost certain (cheerful thought) that we would get thru OK I wouldn't go," she wrote to her father, though she admitted that she'd probably be "scared pink" most of the time.

Jotter filled her letters with reassuring details: a careful accounting of the costs involved, her confidence in Clover to protect her from the "familiarities" of men, the river experience of the rest of the crew, and the greatly improved maps of the Grand Canyon. She even listed the clothes she'd wear: long-sleeved shirts, fitted overalls, cork helmet, wool socks. "This is carefully planned," she wrote. "I know that I'm not getting into any lark, but you know, that it will be something I'll always regret not doing, if I don't."

Her father gave his blessing and sent the \$200. When the spring semester ended, Jotter told a friend about her summer plans. The friend's mother overheard the conversation and was aghast. "Have you *seen* that river?" she asked.

"Yes," Jotter lied. She hadn't seen the Colorado, but she'd read everything about it she could get her hands on. The title alone of Clyde Eddy's 1929 book *Down the World's Most Dangerous River* might have scared her off. But there were also the tales of Powell's footsore crew eating handfuls of moldy flour. Or the drawings she'd seen of ominous rock spires blotting out the sun. Jotter felt she'd done her homework: She knew what to expect.

The friend whose mother had been aghast mentioned Jotter's summer plans to journalist at the student newspaper, the *Michigan Daily*. The story made the front page, with the headline: "Faculty Women to Face Danger on Stormy Colorado for Science." Cameramen from *The Detroit News* were in the parking lot on June 7 when Jotter, Clover, and Atkinson loaded up their gear. The trio agreed to a last-minute photo shoot—perhaps, though nobody said it aloud, a final photo shoot.

Then the three scientists piled into Atkinson's car for the weeklong drive to Utah. Even that comparatively tame adventure had moments of foreboding. Clover admired a long black car that passed them on the road before realizing it was a hearse. Jotter woke in her hotel room one night to wailing sirens as a bakery across the street went up in flames. "I am saved for the Colorado," Jotter noted in her diary as firefighters doused the blaze.

Only her roommate back in Michigan, Kay Hussey, knew that Jotter had boxed and labeled her possessions for distribution before she'd left for Utah. Just in case.

2.

The town of Mexican Hat, Utah, named for a rock formation that looked like a jaunty stone sombrero, had no electricity. Nevills, his father, William E. Nevills, and Harris used hand tools to build the three boats that would carry the expedition down the river, working out of the little hotel that Nevills ran in town. Each boat measured 16 feet long and was held together by some 2,000 screws, with watertight compartments at either end and a hull reinforced by oak ribs. They were newfangled vessels of Nevills's own design—he called them cataract boats. They had a shallow draft and eight-foot-long wooden oars thrust through eye hooks on each side. The boatman sat in the center and faced downstream. Though the cataracts were wider than the boats traditionally used on the Colorado, there wasn't much room for passengers. They had to cling to the front or rear deck or get out and walk in rough water.

Each boat had its name printed on the side—the *Botany*, the *WEN* (Nevills's father's initials), and the *Mexican Hat*—along with big block letters reading “Nevills Expedition.” The sight dismayed Jotter. She had envisioned the trip as a scientific voyage under Clover's direction, during which their collected plant specimens would be carefully transported to the University of Michigan for study. Nevills had a different idea entirely: This was a business venture with paying passengers. He hoped to make a name for himself as the Grand Canyon's first commercial river guide—though he'd never run the Colorado River before. (No one on the trip had.) Nevills's experience included floating the San Juan, a tributary of the Colorado that passed through Mexican Hat. The journey ahead could make or break his career. He needed publicity, as much as he could muster. It helped that the two women brought a frenzy of news coverage with them from Michigan. When he got the chance to talk to reporters, Nevills emphasized the care and precautions he'd taken preparing for the expedition. It was as safe as any journey downriver in nearly unknown territory could be.

They were risking their lives—everyone in the group was clear about that. They just weren't in agreement on why. Was it for publicity or for plants? News wires picked up the *Michigan Daily* story, and each retelling was more sensationalized than the last. The “relic flora” and “important cacti” mentioned in the original article became “botanical freaks” in an Associated Press story. Eventually, nothing much was said about science at all. One reporter noted, “The women, besides their scientific work, will do the cooking.” Articles described “Miss” Clover as a 40-year-old college professor, plump and bespectacled, while Jotter was thin, freckle-faced, and nearly six feet tall. Indignant, Jotter corrected that description whenever she could: She was five feet seven and a half inches.

On June 19, a caravan of cars left Mexican Hat pulling the three boats on trailers. The six expedition members drove to Green River, where they were mobbed by reporters and autograph hunters. Clover and Jotter, hot and dusty from the drive, were dressed in practical brown overalls.

“Do you think women can do anything a man can do?” an Associated Press newsman wanted to know.

No, the women replied emphatically. The question annoyed Jotter. In terms of strength, she probably couldn’t do the same work as a man. But her mind, her abilities, and (she hoped) her endurance in the rough country ahead were just as good. Or better.

“What do you think of the riverman’s statement in the *Saturday Evening Post*?” came the next question.

They’d seen the article, of course. Everyone had. The riverman was Buzz Holmstrom, a 29-year-old from Oregon who’d run the Grand Canyon solo the year before—the only person on record to achieve that feat. The *Post* had printed a seven-page, blow-by-blow account of his thousand-mile journey from the Colorado River’s headwaters in Wyoming all the way to Lake Mead. Holmstrom was speaking of the vanished honeymooner Bessie Hyde when he said, “Women have their place in the world, but they do not belong in the Canyon of the Colorado.”

Jotter smiled at the journalist who asked the question. “Just because the only other woman who ever attempted this trip was drowned,” she replied, “is no reason women have any more to fear than men.”

At least that’s what the newspapers reported. In her diary that night, Jotter scribbled wearily that she’d tried to speak as little as possible, knowing how easily her comments could be misconstrued. “My dear, don’t believe anything you do see that is supposed to be something we said,” she wrote in a letter to Kay Hussey, her roommate, “because we’ve been beautifully misquoted out here.” Jotter also enclosed a schedule of the journey in the short letter to her friend: “Lees Ferry, Arizona, July 4. Grand Canyon, July 14. Boulder Dam, July 30,” she wrote. “Please do not be worried if we don’t get there on the exact date, as we may lay over for a week for high water.”

The two botanists stayed up late that night creating makeshift plant presses—strips of newspaper layered with blotting paper to absorb moisture, held between cardboard and cinched tight with leather straps. They’d insert plants and squeeze them flat to preserve them, a tricky proposition with cactus, and send them back to Michigan in three shipments: one at the start of the Grand Canyon, one halfway down, and one from Lake Mead. The presses would be stuffed into the boat hatches along with the food, life preservers, and Clover’s sewing kit. Other supplies included Jotter’s bedroll: a mammoth creation of overlapping blankets around an air mattress—a gift from her parents—wrapped in heavy canvas ground cloth. Most of the food was canned, even the potatoes, the fruit, and a brand of dried milk called Klim.

Early the next morning, the party put into the Green River. “Two flora-minded women from Michigan join four equally adventurous men today in a daring boat trip down the restless Colorado river’s mile-deep gorge in quest of nature’s secrets,” began the adjective-riddled Associated Press story. For all her bravado in letters to her parents, Jotter felt relieved when the three boats floated just fine in the water.

On the placid river, sliding in the shade of cottonwood trees, the memory of dire predictions began to fade. Everything seemed planned, predictable, safe. “Much singing and sitting on sundeck,” Jotter wrote in her logbook of those early days. On the third night of the trip, Nevills gave the group a lecture on how to run the rapids ahead. Jotter recorded his advice: “If you do get sucked in, hit stern first and square, current not too strong at cliff walls, quarter up-stream, row against, always hang on to boat, etc. etc. Finally and so to bed.”

Later, Jotter added a wry note to that entry, “I guess I really must not have listened to all this with any sense of responsibility.”

They reached the Colorado River on June 23. That's when the trouble began.

Here, at the confluence with the Green River, they'd enter Cataract Canyon—with its 63 rapids, the most treacherous stretch of river they'd encounter. The group pulled their boats ashore to scout the rapids and search the canyon walls for an inscription left by Powell. The river was a churning white maelstrom, crunching logs and trapping boulders in its maw. While the men plotted their course, Clover took the opportunity to snatch up a few plant specimens and Jotter rested on the shore. The character of the river had changed, it seemed—it was now deep, swift, and powerful. Then Gibson shouted: "My God! There goes the Mexican Hat!" Jotter's boat had tugged free from its mooring on shore, empty except for much-needed supplies. She dashed to the river's edge. Her rowing partner, Don Harris, ran past her, calling for Jotter to follow him. They both climbed into the WEN.

"We're going right through, so hang on!" Harris shouted.

Jotter bailed water with an empty coffee can while Harris put his back into the oars. In no time, the river had swept them around a bend, out of sight of their companions. Somewhere between terrified and exhilarated, they rode out four rapids before Harris pulled into an eddy to rest.

"Do you want to stay here while I go on?" he asked between heaving gasps.

"No," Jotter said.

Back into the main current they went. Waves crashed as the sun went down. Soaked and chilled, they beached again—there was still no sign of the Mexican Hat. But Jotter thought she glimpsed a sandy patch of land ahead, the kind of spot where a boat might run ashore. They continued along the riverbank until they saw a flash of white paint and a curved prow. The boat had indeed run aground, with all its food, clothing, and blankets still safely stowed. It had traveled five miles.

Harris left Jotter and walked back upriver to deliver the news to the rest of the crew. He promised to return as quickly as he could. He found his companions waiting around a little campfire on the opposite bank, cooking a dreary dinner of canned peas. Harris shouted to get their attention.

Clover, Nevills, Gibson, and Atkinson quickly climbed into the *Botany* and crossed the choppy water, fighting to hold a straight line. In giddy relief, they shook Harris's hand and clapped him on the back. He and Atkinson decided to walk back to Jotter, taking the only flashlight. The rest of the group resigned themselves to a miserable night. The *Botany* had no cooking utensils and hardly any bedding among its cargo. They had to "chuck conventions"—Clover's words—and huddle together for warmth. "What a night for the first one on the Colorado!" she wrote in her journal.

Harris and Atkinson didn't make it back to Jotter straight away. The boulder-strewn terrain proved too difficult to navigate in darkness, and they lay shivering on a rock in wet clothes until dawn. Jotter spent the night alone. She dried out the food and bedding on the *Mexican Hat* and collected driftwood for a fire. She put her back against a stone and kept her face toward the flames. She toasted some bread and ate it. The river was rising, and soon Jotter had to move the fire back from its encroaching edge. Stars bloomed in the night sky above the canyon's close walls—a great river of stars, perfectly echoing the real river below.

Jotter should have been afraid. Almost no one believed that she belonged on the expedition, let alone out on her own in the treacherous wilderness. The journey had barely begun—500 dangerous miles stretched ahead. Cataract Canyon was the expedition's first test, and it seemed they were failing it. They were cut off from any hope of help if someone was injured, a boat was damaged by the rocks, or their food supply spoiled.

The noises of the night rose around Jotter—water rushing amid the roots of willow trees, the susurrations of the river, small creatures rustling in the brush. She wrote in her logbook, "Felt quite alone." But the solitude didn't frighten her. She confessed, "I had a lovely time."

Morning dawned pink and gold. Jotter woke early, washed her face in the river, and carefully applied her makeup, just as she and Clover did every morning in the early days of the expedition, before Jotter gave it up as "useless." Then she waited. Harris and Atkinson arrived first, relieved to find her safe, and the rest came down in the *Botany* not long after, hungry for breakfast.

Reunited, they continued downriver. Nevills and Harris, who had the most rowing experience, sometimes took the boats through the rapids one at a time, walking back between each run. It gave Gibson a chance to film with his 45-pound movie camera as the boatmen ran the rapids. But the arrangement also meant long periods of separation and nerve-fraying waits. Once, Gibson announced that he would abandon the river and walk to Moab, Utah, if Nevills turned up dead.

The mishap in Cataract Canyon had shaken the expedition. Sometimes Nevills didn't want to plow through the whitewater before them. Instead, the group "lined" the boats—guiding them by rope from the shore—or dragged them overland on skids. Or they unloaded and carried them. Everyone pitched in when a portage was required; it was grueling work in the heat, with loose stones to dodge and pink rattlesnakes coiled in the sand. Nevills fretted that the women were taking on too much of the physical labor.

They drank river water that left their mouths lined with clay and grit in their teeth. A week into the trip, everyone grew nauseous. Prescription: a shot of whiskey. Gibson awoke one night in terror, yelling about the river closing over his head. After a while, even the rocks seemed to ripple and heave.

Like the river, Jotter's journal took on a different character. During the wearisome drive from Michigan to Utah, she had delighted in plants—or, in her words, "botanized lots." She noted the sinuous tracks of cottonwoods, recorded goatsbeard, white larkspur, and evening primrose, and lamented a "rather barren stretch as far as flowers go." Now, on the Colorado, she and Clover rose every morning before the rest of the crew to gather plants, make notes, and cook breakfast for everyone. In the evening, one of them would press the specimens collected that day while the other made dinner. Jotter had little to say about their findings in her logbook. The botanists' collection, she believed, would speak for itself once it was back in Michigan.

Jotter's writing focused instead on the novelty of river life: cooking food over a campfire, washing clothes (her own and sometimes those of "the boys"), trying to bathe in the river or change in the privacy of her bedroll—all the daily domestic concerns of making and

breaking camp. Only one topic consumed her more, and that was running the rapids.

On June 29, the group awoke to a landslide in the distance raising a cloud of white dust. The river was still high, muddy and red with runoff from the rain. Gypsum Creek Rapid lay ahead. The water seemed smooth, and Nevills decided to run it without stopping first to scout. Nevills and Clover went first in the WEN, then Gibson and Atkinson in the Botany. Without warning, the boats plunged over a steep drop. The Botany was tossed up, then overturned. Atkinson clung to the hull, but Gibson was gone, swept into the river—his nightmare come true.

Clover wrote that the little boat caught in the curl of the wave would have been a “beautiful sight if it had not been so dangerous.” Nevills bent to the oars of the WEN, heading to intercept Atkinson and the overturned boat. Atkinson clambered aboard while Clover grabbed the Botany’s trailing rope and hung on. Six feet from the shore, Nevills jumped out, intending to tie up the boats, but the slick rope ran through his fingers. He went into the river, too, while the boats swept on without him.

Some ways behind, Jotter and Harris made the run safely in the Mexican Hat, though they nearly lost the oars as the waves pummeled their boat. They found an exhausted Gibson struggling to keep his head above the water and pulled him aboard. Downstream they picked up Nevills, who had managed to swim to the riverbank. But the WEN and capsized Botany were gone from sight, lost to the raging river.

The foursome made their way downstream with painful slowness, sometimes walking and lining the boat, sometimes rowing with all four of them crammed together in the tiny craft. (“Felt like a blooming ferry,” Jotter noted.) Dark Canyon Rapid was looming—they could hear its hollow, ominous boom. Had their companions made it to safety before reaching it?

Then Clover and Atkinson came into view, waiting on the shore around a fire, the two boats tied up beside them. They’d come through nine rapids in a little more than five miles, all while towing an upturned boat—a wild, battering ride. Atkinson had a deep gash in his leg, and Clover had a purple bruise blossoming on her thigh. Everything in the Botany was soaked, including the food supplies and Gibson’s prized movie camera. “Much rejoicing,” Jotter wrote in her logbook that night.

Nevills did not echo the sentiment. He reckoned that he’d brought a group of greenhorns onto the Colorado, and everyone could imagine what the newspapers would say if an empty boat washed up at Lees Ferry. They were behind schedule—the party was expected by July 4, but they weren’t going to make it. The river had shown its claws and teeth. In a moment of despair, Nevills told his companions, “This is the end of my career as a riverman.”

4.

Back then, the Department of the Interior planned to construct dozens of dams along the Colorado River, for hydropower, water supply, and recreation. Government engineers envisioned a series of ponds from one end of the Grand Canyon to the other to reduce the rough, silt-laden river into a clear, controlled stream. Jotter carried the specter of that possible future with her in the form of topographical maps made by Colonel Claude Birdseye of the Geological Survey in 1923, when he was tasked with identifying potential dam sites. She'd gotten copies of the maps from the colonel himself before the trip—though before giving them up, Birdseye tried to dissuade her father from letting her go at all.

Jotter didn't know that the canyons the expedition drifted through would one day be submerged beneath the waters of an artificial lake. The group lined Dark Canyon Rapid rather than risk another disastrous run. It was here that a tributary called Dirty Devil River poured into the Colorado. A few decades later, that confluence would vanish behind Glen Canyon Dam under the waters of Lake Powell.

The group sometimes spotted the names of travelers who had made it that far, painted up on imposing walls of rock. "Buzz Holmstrom" still shone fresh from 1937, an unwelcome reminder of his declaration: "Women do not belong in the Canyon of the Colorado." Eight miles farther along, another sheer cliff bore the words "The Eddy Expdtn," badly faded, and "Hyde," with a date below: November 1, 1928. Bessie and Glen Hyde hadn't lived to see December.

While the others labored to unload and line the boats through a nearby rapid, Atkinson took a can of white paint and added "Nevills Expedition" to the cliff, with all six of their names below. At first, Jotter winced at defacing the stone, but she didn't voice an objection. It was hard not to wonder: Would this be a record of their accomplishment or an epitaph?

Reporters in the world above the canyon seized on the expedition's nonappearance at Lees Ferry to speculate, with ghoulish glee, about its fate. The Geological Survey reported unusually high water on the Colorado, and plenty of rivermen were willing to speak about the "unimaginable difficulties" of the trip and condemn the expedition for being "thoroughly unplanned." Unnamed sources believed that the party was "drifting helplessly on the crest of the stream, or already smashed to bits on the jagged rocks." Journalists took every opportunity to remind their readers that "no woman had ever before conquered the Colorado."

One reporter cornered Holmstrom, then working as a boatman for a Lake Mead tour company, and asked his opinion of the "lost" expedition. Holmstrom detailed the dangers the group were facing, then added, "I'm glad I'm not on that trip, but I certainly hope they get through all right." Soon after, he hitched up his boat to his car and set out for Utah: He would stage a rescue if need be.

Meanwhile, Jotter's family lived in daily expectation of news—bad news. Jotter's mother traveled to Ohio to visit her mother, who wept in terror over Jotter's fate. "I have a deep and growing realization and conviction of personal responsibility," Jotter's father wrote to his wife while she was away. "No use to tell you not to worry. You will and so will I."

Early on the morning of July 7, a plane flew over the Colorado River, searching for the missing group. It wasn't until evening that the pilot spotted them, preparing for supper on a willow-shaded sandbar. The plane circled and dropped leaflets like snow. The expedition party scattered, each person trying to catch one. Nevills and Harris went to scale a nearby cliff, and Gibson climbed a willow, while Clover found herself mired in mud. Jotter stayed where she was—she was busy cooking—and Atkinson stayed with her. They were rewarded when a fluttering piece of paper landed nearby. It read:

We are U.S. Coast Guard plane searching for a party of six U. of Michigan geologists reportedly late at Lee's Ferry. If you are they, lie down all in a row, and then stand up. If in need of food, sit up. If members of the party are all ok, extend arms horizontally. It is imperative that we know who you are, so identify yourself by first signal first.

Jotter and Atkinson went through the necessary gymnastics. Gibson returned and joined in. The plane dipped its wings and departed, ready to send good news to the world.

The expedition arrived at Lees Ferry four days behind schedule. Reporters were sprawled on the sand, asleep. When they woke to the three boats and six crew members pulling in, they scrambled. Ultimately, the weary group were persuaded to stage their arrival a second time so that news cameras could capture the moment. Then they devoured watermelon, too absorbed in the delight of fresh fruit to answer questions.

Jotter had letters waiting, along with a piece of her brother's wedding cake. He'd been married on July 1, a date chosen to distract their parents from worrying too much about his sister. The expedition would stay a week at Marble Canyon Lodge to rest and resupply. Jotter had time to dash off letters of reassurance to her family and friends, making light of the "terrible accounts of our suffering" printed in the newspapers. "Girl Left Alone," screamed one headline on July 9, telling a vividly imaginative story of the night the Mexican Hat had gotten loose. It painted a picture of Jotter stranded on the tempestuous river's shore while wild animals howled. Jotter wrote emphatically to her father not to believe a word of it. "At no time was I cold, unfed; nor did I hear animals growling from the rim.... Really most of the stuff written has been absurd, and so wrong that the only right thing was the date-line." To her roommate, Hussey, she wrote, "May not continue trip, but keep that quiet for the present."

Two of the group decided to depart. Harris and Atkinson had new jobs waiting for them back home, and Atkinson was disgruntled that he'd had no time to collect zoological specimens, which he'd planned to sell to make up the cost of the trip. This meant that the crew were short two oarsmen. The expedition had reached the mouth of the Grand Canyon, but it wouldn't enter unless it could recruit two people who could handle a boat and were willing to take on the river's most dangerous rapids. Clover and Nevills borrowed a decrepit truck and drove straight through the night back to Mexican Hat, where they hoped to find volunteers.

Jotter and Gibson were finishing up a long, lazy breakfast the next morning at Marble Canyon Lodge when a rattling Buick towing a battered gray boat pulled up outside. A stocky, weather-beaten man climbed out of the car: Buzz Holmstrom. He'd learned the expedition wasn't lost soon after arriving at the boat launch in Green River. No one needed a rescue, but curiosity drove him to the lodge: Holmstrom had come about these women on the river.

Born in a logging camp in Oregon, Holmstrom had run the Rogue, Salmon, and Snake Rivers in handmade boats. He didn't do it for money; running rivers didn't pay. Between boat trips, he drifted from job to job. When he wasn't broke, he sent money home to support his mother. He'd proved too shy to make a good tour guide at his current job on Lake Mead, so he spent much of his time scraping paint and sopping up bilge water.

Holmstrom hadn't sought any publicity for his solo trip down the Colorado, worrying that some government official might try to stop him from attempting it. Afterward, the *Saturday Evening Post* made him famous anyway—and paid him handsomely. Holmstrom disliked media attention, but he knew its worth. Secretly, he was concocting a plan with a fellow river runner named Amos Burg to repeat his 1937 Colorado trip. This time, Burg would make color movies of the journey. They had a half-formed idea of showing them at the World's Fair in San Francisco.

When Holmstrom first got word about the Nevills expedition, he worried that the era of derring-do on the Colorado—his era—was coming to a close. Soon anyone with money to spare would be able to pay a guide to take them down the most dangerous river in the world. Why would they want to see films of an adventure they could go on themselves? “If that weren't enuf trouble,” he wrote to his mother, “now these women are in the canyon—if they make it I guess it will be time for me to go and hide somewhere.”

His plan for a rescue mission wasn't entirely altruistic. When he met Jotter and Gibson at breakfast, he told them, “I brought my boat with some idea of going hunting for you.” Jotter thought there was just a trace of embarrassment in his manner when he looked at

her. “Course, I thought it would be good publicity for me, too,” Holmstrom added.

She was disarmed by his frankness. The trio spent the day together, wandering around the lodge. Holmstrom was a sympathetic listener. Jotter and Gibson relayed their difficulties, and Holmstrom described the rapids ahead: Soap Creek, House Rock, Hance, Sockdologer, Grapevine. He had no qualms admitting that he’d been terrified on his solo trip. One night in Cataract Canyon, he awoke in the darkness and stumbled down to the river to cling to the bowline, in a cold sweat at the thought of his boat tearing away downriver without him. But it had been worth it. What Jotter felt about plants, she realized, Holmstrom expressed in a kind of rough poetry about the Grand Canyon. “The spell of the canyon is awfully strong and it holds something of me I know it will never give up,” he once told an interviewer.

Jotter didn’t hold Holmstrom’s feelings about female river runners against him. She thought him “simply swell” and joked about losing her way in the canyon so that Holmstrom could indeed come to the rescue as he’d planned. She was open-hearted, candid, and eager for his advice. “I’ve never felt so much like a hero-worshipper,” she wrote in her journal.

She asked him if she should keep going, revealing the same doubt she’d shared in her letter to Hussey. He told her that she should.

The next day, Holmstrom treated his new acquaintances to lunch. Afterward, they said their farewells on Navajo Bridge, an enormous arch made of steel spanning the Colorado just below Lees Ferry. The river, 500 feet below, was an unfathomable green and deceptively calm. The canyon’s faces caught the sunlight and flashed vermilion. Gibson took a photograph of Jotter and Holmstrom leaning against the metalwork of the bridge, smiling and relaxed.

Holmstrom gave Jotter a good-luck charm to carry the rest of the trip: his waterproof match case with a compass attached to one end. She told her father in a letter that she’d accepted the souvenir as a representative of the crew but thought privately that it was a pity she was taller than Holmstrom—she didn’t like to date anyone shorter than herself. Holmstrom wrote his mother with a warm description of his visit to the lodge, filling his letter with the haphazard dashes he liked to use in lieu of proper punctuation. “They are all fine & I hope they go thru O.K. tho it would probably be better for me if they didn’t,” he wrote. “The women on that party are really doing better than the men—this Lois J. is almost 6 feet tall—rawboned—freckled & tanned—very strong works like a horse helping portage & trying to get specimens & a good sport—never complaining.”

But would they have the chance to continue? Clover and Nevills had made it as far as Tuba City, in the bleak highlands of Arizona, before they had to look for some other means of transport—the borrowed truck threatened to rattle itself apart on the washboard roads. Ed Kerley ran the trading post there. Nevills pounded on his door until he woke up and agreed to give them a ride. Better yet, Kerley had more than a working vehicle: He had a cousin, 24-year-old Lorin Bell, who was raised on the Navajo Nation and loved to travel. As Clover described the scene, they shook Bell awake and asked him if he’d like to run the river. “Hell yes!” he said. “What river?”

They continued on to Mexican Hat, where Nevills picked up a friend of his to be the second boatman, 44-year-old gold prospector Dell Reed. Nevills saw his wife, Doris, and his two-year-old daughter, Joan, before dashing back to Lees Ferry with the new recruits. Jotter was relieved. “I’m all pepped up,” she wrote to her father. The two women were tasked with repacking the boats while Nevills scheduled pictures with the press. Clover also arranged the first of three shipments back to Michigan, this one including all the plants she and Jotter had collected so far.

On July 13, cars and people lined Navajo Bridge to get one final glimpse of the three boats setting out downriver. After the near disastrous first leg of the journey, Nevills was again feeling buoyed. “This is a swell gang and we’re going to town!” he wrote as they set off.

At last the expedition entered the Grand Canyon. The Colorado became like a plunge into the past, each river mile revealing another chunk of prehistory. First were the pale, water-pocked ledges of the Kaibab limestone formation, laid down 250 million years ago when the desert was a sea. The farther the expedition went, the higher above them the limestone rose, all the way to the canyon's rim, where tourists leaned over the abyss. Beneath the Kaibab was the Coconino sandstone, ancient dunes that rippled with the imprint of long-ago winds; then the Hermit shale, split with strange fossils; and then bands of Redwall limestone shot through with petrified shellfish.

There were secrets to be learned here, about past climates, warm shallow seas, and the inexorable work of uplift and erosion. But Jotter wasn't a geologist; she'd come to find plants. In her journal, acknowledging the spectacle of stone, she scribbled, "nice clouds and red cliffs."

On July 15, they pitched camp in a spot with an overhanging ledge in case of rain. While Clover cooked dinner, Jotter scrambled up a hillside to pluck samples of plants with fierce and lordly names: scorpionweed, catclaw, yellow spiderflower, desert prince's plume. She cut a few leaves from an agave with a 12-foot stalk and puzzled over its curious red spines before realizing it was her own blood. "The red was my contribution!" she wrote. That night, too restless to sleep deeply in the heat, she dreamed of pressing plants in sleeves of newspaper.

Clover couldn't sleep either. She stood spellbound beneath the gibbous moon as it illuminated the high cliffs, a play of silver light and deep shadow. She'd been warned about the Grand Canyon—its oppressive walls and gloomy crags, how the sound of water striking rocks preyed on travelers' minds. But what she saw wasn't fearsome. It was a nameless beauty.

Both women rose early. Scientifically, it would be the most important day on the river. They'd made Nevills promise to make a special stop at Vasey's Paradise, where freshwater springs cascaded from the Redwall limestone in ribbons of white. Powell had looked at this spot with a geologist's eyes, describing the spray from the sunstruck fountains as a "million brilliant gems," but he'd named it Vasey's Paradise after George Vasey, a friend and botanist who'd explored the upper Colorado with Powell in 1868. Plants there reveled in water: mosses, ferns, desert paintbrush, red monkey flower. Penstemon tempted hummingbirds with scarlet trumpets. "We collected furiously," Jotter wrote in her logbook. The women sampled everything they could see except the poison ivy, which lay in green hummocks over rocks printed with the silver tracks of snails.

Bell and Gibson, meanwhile, stripped down to shorts and showered beneath one of the waterfalls. By noon the men were waiting hungrily for lunch; they expected the women to cook, as always. Clover suggested that they get out the canned food and cold biscuits left over from breakfast. They managed that, but when the women had finished pressing their samples, they found the rest of the crew "waiting bug-eyed and expectant under a rock," still hungry. In a rare moment of impatience, Clover wrote, "We have spoiled them completely."

Mere steps away from the springs, the canyon's desert vegetation asserted itself—scowling cactus, shrubby saltbush. This place followed none of the neat rules Clover and Jotter had learned in botany textbooks. The naturalist C. Hart Merriam had come to Arizona in 1889 to work out his theory of life zones. He'd used the San Francisco Peaks, just east of the Grand Canyon, as a living laboratory, describing how plants grew in predictable zones determined by climate: alpine tundra descending to desert. The Grand Canyon defied all such categories. Clover and Jotter sampled moss one moment, plucked succulent pads the next. Barrel cactus blushed pink with sunburn on exposed rock faces, while across the way redbud and hackberry trees hunkered gratefully in shade. Mormon tea, with its stubby green fingers, clung to steep talus slopes. Dismembered prickly pear pads washed into the spaces between flood-tossed boulders and took root. They found an extraordinary number of hedgehog cactus, their pink blooms faded in the heat, on ledges hundreds of feet above the river.

"Here is a case," the botanists wrote, "where drought vies with flood waters in exterminating plants struggling for existence in a trying situation." It was what they'd come for—not to conquer or impress, but to learn.

On July 18, they entered Upper Granite Gorge, where the basement of the world lay exposed—gray Vishnu schist ribboned with pink granite, formed 1.7 billion years ago when life had not progressed beyond a single cell. No way to portage or line the boats here: They had to brave the whitewater. Holmstrom had warned Jotter about Grapevine Rapid in particular. As she looked out over the churning whirlpools, she felt "the old before-the-exam feeling in the pit of my stomach." She smoked a cigarette and felt better but then lost her balance and nearly took a bad fall as she navigated a narrow ledge above the river. She climbed into the boat feeling weak and shaky.

"Here we go," she told Bell, her partner on the ride.

"We're in for it!" he replied.

A wave on one side, a hole on the other—they dashed through the rapid on what Jotter called "considerable of a ride." There were more rapids ahead, but none so large, and before Jotter knew it the Bright Angel suspension bridge loomed ahead, bearing a gaggle of reporters. "Look as if you're glad to be landing!" one of them yelled down.

Jotter wasn't glad at all. "It meant people, fuss, and the end of a perfect day," she wrote.

For generations, a narrow path here had wound from the Grand Canyon's South Rim, down stony switchbacks, and into a green oasis of cottonwood trees. The Havasupai, whose feet had worn the path, called it Ghatv He'e (Coyote Tail Trail), a reference to the brushy ends of spruce trees. When the Grand Canyon became a national park in 1919, authorities worked to clear away old mining claims and tent camps. The government also denied the ancestral claims of Native people who moved seasonally into the canyon and onto the plateau above to hunt, gather plants, and conduct ceremonies. The Havasupai were confined to a reservation. Their path was built over and renamed Bright Angel Trail.

Floods of travelers now came down the trail on mule trains to see the river and sleep at Phantom Ranch, a hostel built in 1922. When the expedition members arrived at the ranch, weary and sunburned, they faced an admiring chorus of photographers, cowboys, and

tourists. They ate dinner amid the hubbub and then headed to the river's edge to camp in the quieter company of cottonwood trees. In celebration of their arrival, Clover passed around a jigger of whiskey. Under the cover of darkness, Jotter secretly poured hers out on the sand. They still had nearly 200 miles to go, from Bright Angel to Boulder Dam.

Most of the crew hiked to the South Rim the next morning, where civilization awaited in the form of a hot bath. Reed stayed behind with the boats. The others spent two days at the top, ushered around for photographs, interviews, and lectures, testing Jotter's patience. She was eager to get back to the river.

Jotter wrote to Hussey, "The canyon is lovely, Kay, and not particularly terrifying." She added, "We're being lionized pretty badly and as you say the emphasis has been on"—here she sketched a small circle with a cross below, symbolizing the female sex—"rather than on Botany." Still, what they'd gathered in their press, now bulging with plants, made her proud. It was heavy and unwieldy. So rather than carry it 11 miles up the canyon herself, Clover arranged to have someone haul it up the Bright Angel Trail and ship it to Michigan. They continued downriver, leaving the press for the time being exposed to the elements at the base of the trail.

7.

The plants they saw began to change. Ocotillo appeared, bundles of sticks with firework-red sprays of flowers. Barrel cactus and agave thickened on the talus slopes. Clover and Jotter found it difficult to collect anything. There was hardly any time to stop and no easy way to dry the plants. Nevills strained an old knee injury; Bell hurt himself pulling on the oars during a bad run of whitewater. They navigated rapids—big ones—nearly every day. The women often walked, on Nevills's orders. Jotter had high hopes of being allowed to run a rapid herself; she'd rowed a boat before, though only in calm water. But Nevills wouldn't allow it. He didn't mention her request in his journal but noted that he considered Jotter "too reckless." Perhaps it was her habit of sitting up on the stern in rough water that annoyed him.

They reached Lava Falls, the Grand Canyon's most infamous rapid. The river made a dizzying, nearly 40-foot drop here; only one or two people had ever tried to run it. "All members would like to run, of course," Nevills noted, but he chose to line, the safer option.

Somehow it had all become routine. Clover wrote, "It was just a part of the day's work to make a flying leap for shore, to climb steep cliffs after plants, and to get photographs."

Early in the morning on July 29, when they were just a day or two from the shores of Lake Mead, a small plane flew overhead. Nevills was cheerful that the world would soon receive word of their safety—that is, of his success helming the expedition. But the moment set off a deep melancholy in Clover. "Can't even get away from the world here," she lamented.

They camped that night at Diamond Creek, where 81 years earlier, Lieutenant Joseph Ives of the U.S. Army became the first non-Native to visit the bottom of the Grand Canyon. He'd come upriver by steamboat, and when it broke on the rocks at Black Canyon, he kept going on foot. "The region last explored is, of course, altogether valueless," he'd reported. "It can only be approached from the south, and after entering it is there nothing to do but leave. Ours has been the first, and will doubtless be the last, party of whites to visit this profitless locality." What his Hualapai guides thought of the river wasn't recorded, but Ives was convinced that the Colorado River, "along the greater portion of its lonely and majestic way, shall be forever unvisited and undisturbed."

He was wrong on both counts. Disturbance had already crept in from European influence. Jotter and Clover found tamarisk trees, an imported Eurasian species, thick along the riverbanks. They had recorded other exotic plants: tumbleweed in Cataract Canyon, Bermuda grass below Bright Angel Creek. Plants weren't the only symptoms of change. Feral burros and cattle grazed the side canyons. Government officials had introduced non-native fish into the Colorado River system: rainbow trout, common carp, channel catfish, and others favored in sportfishing. Populations of native Colorado pikeminnow were crashing, their migration blocked by Boulder Dam. Within a few decades, not one would be left in this stretch of river. Only the canyon walls stood fast, recording time yet seemingly untouched by it.

The crew passed the point where the Hydes' boat had been found by a search party. Clover wrote in her journal, "Makes me feel almost ashamed to enjoy it so much. It is a great river with a hundred personalities, but it is not kind." Thirteen miles downriver, they reached Separation Rapid, where the three men had abandoned Powell's crew. Below this point, the rapids marked on Colonel Birdseye's maps no longer existed; they'd been submerged by the slack water of Lake Mead.

A despondent feeling settled over the party. "There was a feeling of regret as the last rapid came into view," Clover wrote. "No more would we have that feeling of uncertainty and expectation. Lake Mead lay placid ahead."

Boulder Dam had been completed just two years before, and the Colorado was still pouring into the reservoir. Lake Mead would rise nearly to capacity in 1941. (Stressed by drought and water demand, it would only reach that level of abundance again in the wet winter of 1983–84.) The group camped, and by the light of a fragrant mesquite-wood fire, they scrubbed their clothes and faces clean and signed one another's helmets, like high school kids with yearbooks. "Enjoyed fighting Botany and the old Colorado with you," Clover wrote to Jotter, who replied, "It was a pleasant two months—and thanks for showing me so much."

So much of what they'd collected would soon be lost.

Without a current to carry the boats, the crew traded turns at the oars, rowing with blistered hands in blistering heat, fighting for every mile. They slept in a narrow, barren spot by the lake and awoke at 4 a.m. to start all over again before the sun returned. That morning, another plane dipped low overhead as they pushed through the water. The only other excitement came from a live rattlesnake Bell caught at their campsite that he carried with him in an empty bacon can.

Beneath the sun-bleached boats, the water was no longer muddy and red—it had turned clear blue. When they decided to pull into a side canyon for an early lunch, “the boys swore violently when they found they had only rowed six miles,” Clover wrote.

They hadn’t yet begun to eat when a distant rumble echoed over the lake water: a motorboat. Everyone dashed to the water’s edge to shout and wave. The boat turned toward them. They soon saw that Holmstrom was at the helm. It turned out he’d also been in the plane that spotted them that morning. He’d come to welcome them to the end of a journey.

Hastily, the crew tied the three boats behind Holmstrom’s, like ducklings bobbing in their mother’s wake. They barreled five miles to Emery Falls, a silver cascade tucked into a cove of the Grand Wash Cliffs. This marked the end of the Grand Canyon. Everyone piled out for a swim and a hike to a nearby cave that contained the ancient remains of extinct giant ground sloths. Clover passed out briefly from the heat but recovered enough to identify ephedra and other bits of plant material in the fossilized dung.

Soon they were joined by a larger boat from a Lake Mead tour company, carrying park officials and cameramen. They rode in style to Boulder City, Nevada, at the far end of the reservoir, with boxed lunches, ice-cold sodas, and endless requests for photographs, autographs, and interviews. “Women Make Perilous Trip Through Colorado Gorges,” declared the Associated Press, describing Clover and Jotter as “two Michigan schoolma’ams” with “copper-tanned cheeks.”

The first non-Native women to make the journey through the Grand Canyon had done it in 43 days—almost exactly as long as expected, despite the early delays. It was strange to be off the river. That night in the hotel room they shared, Jotter washed her face and hands in the bathroom sink and then asked, “Elzie, do you want to reuse this water?” The women stared at each other for a moment before bursting into laughter.

The party broke up a few days later. Clover, still in Boulder City, missed the sensation of the boat moving up and down on the waves. One day alone in her hotel room, she gave in to anguish and wept. Then a call came from the lobby: Holmstrom was there. He’d just given his boat, the *Julius F*, a fresh coat of paint and wanted her to see it. Clover splashed cold water on her swollen eyes and went to meet him. Holmstrom understood: He had experienced what he described as an “all-gone feeling” after leaving the Colorado. He told Clover his secret, that he planned to float the river again that fall with Amos Burg. “He’s as lonely as I am for the river,” Clover wrote in her journal.

A week later, Clover and Nevills left for Mexican Hat, the WEN rattling in a boat trailer behind them. They’d made plans to descend the San Juan together, along with Lorin Bell. It was a sweet, lazy river compared with the Colorado. On the way back to Utah, they stopped at the South Rim. It was there that Clover made a terrible discovery: The plant press she’d left for shipment at the base of the Bright Angel Trail had never made it out of the canyon. Everything from Vasey’s Paradise. Everything collected in the upper canyon from Lees Ferry to Bright Angel. Proof of how remarkable the Grand Canyon’s flora was, how defiant of the harsh conditions. All of it was missing.

Clover was determined to track down the press. Maybe it had fallen off a mule; maybe it had never been picked up in the first place. Whatever happened, it was nowhere to be found. By the time Clover returned to Ann Arbor, she’d given up hope that it ever would be.

The botanists buckled down to write up their scientific discoveries, based on their notes from the journey and the specimens they’d managed to preserve between Bright Angel and Lake Mead, but the lost plants cast a cloud over the work. Had it really been worth it, risking their lives? Could they justify the danger and expense of the journey without the greater portion of their collection? It was a terrible thought that they might be remembered—if they were remembered at all—for being women, not scientists.

Clover made plans to return the following summer and take a mule into Havasupai Canyon to collect more cactus. Jotter, absorbed in her thesis work and with no money to spare, declined the invitation to join her. In early September, a letter arrived from Wyoming. “Dear Lois,” it began, in cramped writing on a torn-out sheet of notebook paper. “Pardon that informal greeting but it’s the only way I know to start a letter.”

Holmstrom was on the river again, traveling from Wyoming to Lake Mead with Burg and another companion. Jotter haunted his journey. He thought of her in Cataract Canyon when he discovered an abandoned tin can labeled “Apples” in a feminine hand. Her name, and Clover’s, shone not far from his own, painted in white on the canyon wall. He postmarked letters to Jotter at every possible stop, warm with admiration. His change of heart was sincere. “I really think you fit into river life just as well as any man I know & a lot better than some,” he told her.

At Marble Canyon Lodge, a letter was waiting for him. Jotter described an outfit she’d worn for a publicity event—brown velveteen and blue silks. Holmstrom scribbled back, “I don’t think I would like you as well that way as all tanned & weatherbeaten & run down at the heels a little in an old pair of slacks.” Then he confessed his own ragged appearance: His shoes had given out, and he hadn’t taken a bath since he left Wyoming. “I’m beginning to think perhaps women could really do some good on a trip like this by keeping everyone cheerful & the general appearance a little better,” he said.

It was autumn, and the cottonwood leaves crisped into paper-thin circles of gold. On October 22, Holmstrom pulled the *Julius F* ashore at Bright Angel Creek. Burg, who followed in a modern rubber raft, fiddled with the cameras he’d brought to film the adventure. The third man on the trip, Willis Johnson, wandered into the canyon on his own. Fallen leaves crunched underfoot. Not far from Bright

Angel, he chanced across a curious artifact: a pile of newspapers stacked neatly on a rock. He went closer and saw tongues of cactus sticking out of seemingly every layer. A forlorn prickly pear had thrust out a five-inch-long pad as if reaching for the light.

He knew right away that it must belong to Clover and Jotter—who else would have cared to collect so many plants? Johnson “felt real proud” to carry the lost press back to camp and place it in Holmstrom’s care. The next day, Holmstrom lugged the awkward bundle 11 miles up the Bright Angel Trail to mail to Michigan. A letter from Jotter was waiting at the top. Holmstrom sent a response back with the plants, saying that he’d reached the trailhead so tired he could barely open the envelope from her. He added, almost as an afterthought, that her plants were in a “bad state of disrepair.”

For Jotter and Clover, retrieving their press meant the most important collections from their trip were finally available for study. They sent some of the plants off to specialists for identification, while the rest went to the University of Michigan Herbarium, as had been promised before the expedition. In 1941, they published a paper on the Grand Canyon’s cactus, followed closely by a comprehensive plant list. It included four new species.

Holmstrom had come to the rescue after all. He wasn’t a likely hero, the man who’d despaired to hear of two women descending the Grand Canyon. But he understood how much the plants meant and the significance of Clover and Jotter’s journey—not to journalists or river rats, but to science. Finding the press helped guarantee that the risks the women had taken would be outweighed by their discoveries.

“She must have been a remarkable woman,” Willis Johnson later said of Jotter. “She probably didn’t know that Buzz was in love with her.” If true, Holmstrom never acted on it. The two kept in touch for some time. Their letters were filled with respect and admiration for each other, and for the wild places each of them loved and understood in different ways. “I was helping a fellow move today,” Holmstrom once wrote to Jotter in a letter. “His wife had a cactus plant which would have fallen off the truck if I hadn’t grabbed it with my bare hands. Right then I [thought] of you.”

EPILOGUE

Many of the expedition members felt a pull to the West and its rivers for the rest of their lives. Clover continued to travel and lecture about her adventures; she eventually retired in the Rio Grande Valley of Texas, close to the cactus she loved so well. She died in 1980. The publicity of the expedition paid off for Nevills. He operated a successful river-rafting business with his wife, until they died in a plane crash in 1949. All told, Nevills ran the Grand Canyon seven times. He is remembered today for his boat design and for being the first guide to take women and children into the canyon.

In 1939, Holmstrom took a socialite named Edith Clegg across the United States by river: the Columbia, Snake, Yellowstone, Missouri, Mississippi, and Hudson. He served in the Navy during World War II and then worked as a government surveyor. He died on the Grand Ronde River in Oregon in 1946, apparently of a self-inflicted gunshot wound. Grief poured in from fellow river runners. His mother chose the words on his headstone from a poem by Robert Louis Stevenson: “Home is the sailor, home from the sea.”

Jotter wrote to her expedition friends with an eager interest in every new river trip they took, and amassed stacks of newspaper clippings about the Grand Canyon. But her life moved in a different direction. She married a Guatemalan botanist named Victor Cutter II in 1942, took his last name, and defended her Ph.D. thesis while six months pregnant with her first child. Her husband died in 1962, when their daughter, Ann, was 18 and their son, Victor, just 11. She went back to work as a botany professor.

She lived in North Carolina, where she filled her home with plants and her dinner table with lively conversation among students and fellow scholars. Like her parents had with her, she taught Ann and Victor to love science and quietly championed women’s equality in the workplace. “I think my mother was ahead of her time,” Victor remembered. “The river trip was just an example of that.” Later in Cutter’s life, she traveled to Mexico and South America, including the Amazon rainforest. She saw new places and new plants on every trip.

Cutter was 80 when she went down the Grand Canyon a second and final time. She was invited on a scientific expedition by three ecologists—Robert Webb, Theodore Melis, and Richard Valdez—who were studying old photographs to learn about the rate of environmental change in the canyon. They struck upon an idea: Why not ask the people who'd seen it way back when? "I am not sure you realize how legendary you are in Grand Canyon history," Webb wrote to Cutter. Her botanical research from 1938 had grown in importance: She and Clover had compiled the only plant list made in the Grand Canyon before the closure of Glen Canyon Dam in 1966. The dam had profoundly altered the river, eliminating the floods that once built sandbars and laid landing pads for cottonwood seeds each spring. It had also galvanized a community of environmentalists who couldn't accept the idea of damming the Colorado from one end to the other. The admiring public no longer wanted to "conquer" the Grand Canyon: They wanted to restore it. Clover and Cutter's plant list was now a basis for that work.

The so-called Old Timers' Trip launched from Lees Ferry on September 8, 1994, and ended at Diamond Creek 12 days later. Cutter was the only representative from the 1938 expedition, but the group included two other women: Joan Staveley and Sandy Reiff, both Nevills's daughters.

Cutter appreciated the expedition's focus on science. There was time to talk about what had changed and what remained the same. The river was greener than she remembered, the vegetation thicker along its banks, particularly the pesky, exotic tamarisk trees. Cottonwoods and willows were fewer. Many beaches once used as campsites had eroded away.

An interviewer named Lew Steiger asked Cutter about all these changes as sunlight slanted gold and pink down the canyon walls and the river chattered behind them. She replied, "I recognize that there [are] many individual small differences. But the feeling that you get when you look up and see one high wall lit up, and the rest less so."

Cutter passed away in 2013 at the age of 99. Until the end, she kept two souvenirs of her river trip: the match case from Holmstrom, and the yellow helmet scribbled with her companions' signatures. The ink faded over time, and the names became barely legible. Holmstrom's words, though, stood out boldly still, as if they'd been traced afresh in the intervening years: "To the girl who proved me badly mistaken."
