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The taro fields of the Waipa Foundation, on the north shore of the island of Kauai. The foundation focuses on ecological restoration.Credit...Scott Conarroe

On Hawaii, the Fight for Taro's Revival

The root vegetable was a staple food for centuries until contact with the West. Its return signals a reclamation of not just land but a culture — and a way of life.

By Ligaya Mishan
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FROM ABOVE, THE blue is forever. There's not a continent for more than 2,000 miles, only these tiny knuckles of green: the Hawaiian Islands, one of the most remote yet most visited archipelagos on earth. An island is defined by the sea that surrounds it; tourists tend to gaze outward, at the waves, toward what separates them from the world they've left behind. But on Kauai, at the northwestern end of the chain, it's the mountains that command the eye, streaked with waterfalls and so furrowed that in satellite photos they look like fossils. Here, on the north shore, the flanks of tall Mamalahoa are steaming, night rains turning to mist in the morning sun. Thousands of feet down lies the river plain of Waipa and its flooded fields filled with leaves like broad, crinkled hearts, each larger than a human face. Among the thick, blushing stalks, a snail.

This is Pomacea canaliculata, known as the golden apple snail because of its color and size, although in Hawaii, it is more often the russet hue of an acorn and nearly as small: adorable and a killer. It is a relative newcomer to the islands, with roots in South America and ancestors who arrived here in the 1980s, intended as pets for home aquariums and then released into local waterways, by accident or in hopes of raising them as food. Now the snail, capable of laying as many as 1,200 of its bright pink eggs each week, infests taro patches on almost every island, leaving holes in the corms and eating the tender shoots, doubling farm labor and depressing yields.

But it is only the latest interloper to imperil a crop that once covered an estimated 35,000 acres of Hawaiian land and that last year was officially harvested, according to United States Department of Agriculture statistics, on just 310 acres, fewer than those devoted to macadamia nuts or avocados, both introduced in the 19th century and alien to the native diet. Taro (*kalo* in Hawaiian) is ancient, one of the plants brought over in the canoes of the Polynesian voyagers who, some time during the first millennium A.D., crossed thousands of miles of uncharted seas to make a new life in these islands.

While taro is eaten throughout the Pacific, only in Hawaii is it revered as a bridge between the mortal and the divine: the plant that grew from the grave of the Sky Father's stillborn child, and then watched over his younger, human brother and all his descendants ever after. In this, taro is not simply food but a connection to origins, physical and spiritual, a connection that has been under threat since the islands' first contact with the West in the 18th century, along with the people who relied on that connection to survive.

Sun breaks through the clouds overlooking the Kakoʻo Oiwi farm on Oahu. Its goals are to restore agricultural and ecological productivity for the benefit of the local community.Credit...Scott Conarroe

TARO GIVES ALL of itself; almost every part is edible (once cooked, that is — raw, it can make the mouth itch). The Hawaiians wrapped the leaves around salted fish and pork or simmered them until they collapsed into stew, and mashed the corm and added raw sugar and coconut milk for kulolo, a sweet pudding steamed in an *imu* (underground oven). Above all, they ate taro as poi, a paste rich in potassium, fiber and carbohydrates, traditionally made by beating the corm by hand with a stone on a wooden board. This is then mixed with water and left to ferment, sometimes as long as two weeks. Texture is measured by the fingers needed to scoop it to your mouth: three if it's runny, one if it's thick. The process is too labor-intensive (it takes half an hour to make a pound of poi) to recreate at scale, so these days, commercial producers put it through mills, churning out poi that's smoother and — some purists say — blander.

In the past decade, local chefs who champion a farm-to-table ethos have sought to bring modern manifestations of taro to their dining tables, in sometimes unrecognizable forms. Paʻiʻai, the hand-pounded slab that is the precursor of poi, before water turns it to paste, has appeared shoyu-glazed and grilled Japanese yaki-style at Mud Hen Water in Honolulu, and shaved and strewn over duck hearts at Kaʻana Kitchen in the resort area of Wailea, Maui; koena, the sweet scrapings off the corm's exterior, is transformed into crunchy-gooey pan-fried breakfast cakes at Honolulu's Koko Head Cafe. But these are indulgences, not daily staples. Even humble poi is now a luxury: Unlike rice, which is typically less than a dollar a pound, "commercial poi is expensive, $7 to $10 a pound, more than a staple starch should be," says Stacy Melelaiokalani Sproat-Beck, a taro farmer and executive director of the nonprofit Waipa Foundation on Kauai. "Most Hawaiians can't afford to eat it."

Before the arrival of the British navigator Captain James Cook in 1778, *kanaka maoli* (native Hawaiians) ate up to 15 pounds of poi daily and thrived; today, they suffer higher rates of obesity, diabetes and coronary heart disease than Caucasians on the islands. For with the influx of outsiders came new starches — rice, planted in former taro fields, and imported wheat flour — and pressure to abandon taro crops in favor of harvesting *ʻiliahi* (sandalwood) for a booming world trade. Sickness came, too: By 1820, the population had been reduced by more than half, and by 1876, epidemics of measles, whooping cough and the flu had taken another third, among them elders who were repositories of agricultural knowledge. Taro no longer anchored the local diet, and the islands and the people who lived on them became unmoored from the old ways.

History calls this progress, the subduing of nature to industry — and islands are among the first to pay the price.

Only after Hawaii was admitted to the union in 1959 — dashing hopes of restored native sovereignty — did the kanaka maoli paradoxically gain a greater voice in what was a newly representative democracy. In the 1970s, they began to speak out against the erasure of their past, as part of "the nationwide questioning of authority and old myths," as the historian George Kanahele has written, and in kinship with indigenous movements on the mainland and around the world. Eating poi was suddenly political, an act of cultural salvage and self-determination.

But while demand for taro has increased, acreage has not. Land and water were long ago usurped by the dominant crops of pineapple and sugar cane, and even though those industries have faded — the last pineapple cannery closed in 2007, the last sugar mill in 2016 — entrenched business interests mean they remain difficult to come by. Most small farms subsist on short-term leases, according to Adam Asquith, a taro farmer on Kauai. And only a handful of taro cultivars are grown for commercial sale, down from the hundreds that once covered the islands in testament to the range of microclimates that can exist within a single valley, with infinitesimal but crucial calibrations in soil, sunlight and rain.

THIS DIMINISHMENT IS largely because in the mid-19th century, foreigners were allowed to do what had never been done in Hawaii: buy property and make land their own, private — sharing neither its resources nor its rewards. A few decades later, they went further, seizing the Hawaiian queen Lili'uokalani's throne in 1893. Grover Cleveland, then president, decried the new government of white businessmen, sugar barons and lawyers as an "oligarchy" responsible for "a lawless occupation," although this didn't prevent the next president, William McKinley, from supporting annexation in 1898.

Only around 8,000 small holdings, or less than 1 percent of the original kingdom, remained in the possession of the commoners who had tilled them. Diseases introduced by the West continued to decimate the kanaka maoli — by 1920, fewer than 24,000 were reported on the United States Census, down from an estimated 300,000 nearly a century and a half ago — and in a symbiotic decline, taro pond fields, or *lo'i*, were converted to rice paddies or else left dry as the streams that fed them were siphoned off to nourish sugar cane, a plant that was brought to the islands alongside taro by the ancient Polynesians and that rose to prominence as a cash crop when the American Civil War suspended sugar supplies from the South.

History calls this progress, the subduing of nature to industry and the needs of swelling populations — and islands are often among the first to pay the price for it. In recent decades, taro farmers have managed to reclaim some of that lost land, but now they find themselves at the mercy of a greater threat: climate change, marked by trade winds turning easterly and weaker, fruits ripening out of season as temperatures creep upward and increasingly freakish weather events like the storm in April 2018, which engulfed Oahu and dropped 49.69 inches of rain on the north shore of Kauai in 24 hours, a national record.

Rows of taro on the nonprofit Hoʻokuaʻaina farm on Oahu. Its founders want to educate people through the connective power of the plant.Credit...Scott Conarroe

On Kauai after the storm, people paddled surfboards down roads where the water was six feet deep. Cowboys on Jet Skis lassoed buffalo that had been swept over fences and into the bay, winding up stranded on the reef. And those carefully tended and cherished taro patches on the north shore, representing roughly two-thirds of the islands' crop, each staking a claim on behalf of old Hawaii — they went under. For months the loʻi were choked with silt, borne down from the mountains carrying the seeds of weeds that soon reared up taller than the taro. The corms went listless and slack, unpoundable. It took many farms over a year to recover.

Today, the Hawaii Emergency Management Agency suggests that there is only enough food in the entire state to last five to seven days should a catastrophic event cut off its incoming supply. (Hawaii imports approximately 90 percent of its food, some 3,000 tons every day, at an annual cost of more than $3 billion.) What would it take for the islands to be sustainable again, as they were precontact, when the outside world was but a distant shimmer? Could taro be the link to the past that shows a way to the future?

PAUL REPPUN IS a *kamaʻaina* (literally, "child of the land," a term generally used for long-term residents whether or not they are of Hawaiian blood), raised in the 1950s on Molokai and rural Oahu, where his father, a Russian émigré doctor, was sometimes paid for his services in chickens or fish. After graduating from Harvard, Reppun came back to the islands in the early 1970s, slightly adrift, and started farming on Oahu's rainy windward side with his brother Charlie, on borrowed land. They planted their first taro with *huli* (cuttings) shared by an initially skeptical native Hawaiian neighbor who

warmed to the two earnest *haoles* (whites). The crop was a failure, “all *loliloli*” (Hawaiian for “poor quality”), Reppun recalls, spongy and useless for poi.

They took the lesson — that taro needs a lot of water — to their next farm, where they soon realized the water needed for the loʻi was being diverted by the city from the local stream to nourish the arid leeward side of the island, causing the flow to their valley to drop dramatically. “That turned us from hippies to activists,” he says. The brothers sued the Board of Water Supply in 1976 and ultimately won; the Hawaii Supreme Court affirmed that natural waterways belong to the people, to serve the common good.

The struggle to return taro to ancestral fields is a part of a larger battle over stewardship and sovereignty.

But it was their second fight, two decades later — over the return of millions of gallons of diverted water after the closure of one of Oahu’s last sugar plantations — that brought taro farming into the spotlight. The Reppuns started fielding phone calls from people who wanted to come and work in the loʻi, and with other farmers began organizing events in which hundreds of volunteers would build a taro patch in a single day, clearing and leveling the land and building flumes across gullies and *ʻauwai* (irrigation ditches) to flood it.

More taro grown meant more poi, which people learned to hand-pound at workshops led by native Hawaiians and cultural practitioners such as Jerry Konanui, who died in 2017, and Earl Kawaʻa. Still, such non-milled poi, however traditional, could not be legally sold under Department of Health regulations — a legacy of a 1911 ban put into effect during a cholera outbreak — until native advocates lobbied for a legal exception in 2011. “They tried to have the cops arrest me for selling poi to aunties,” Asquith says.

NOT FAR FROM the Reppun brothers’ farm, Charlie’s son, Nick Reppun, watches over the loʻi at the nonprofit Kakoʻo ʻOiwi in the wetlands of Heʻeia, part of a 1,385-acre area that was recently designated a National Estuarine Research Reserve, one of only 29 in the country. His focus is granular, studying how taro can improve water quality and the life of the wetlands, filtering nutrients and reducing algae blooms. Although man-made, the loʻi approximate prehuman mud flats, “so more birds come in, breed and build up numbers,” he says. Heavy rains can send sediment crashing down the hillsides, but the channels leading to the loʻi — and the loʻi itself — slow it down, so the pollutants can settle and exit the water column.

“This is nothing new,” he says. “The Hawaiians knew.” The ancient Hawaiians couldn’t afford to take an anthropocentric view of their surroundings, using up natural resources without replenishing them. “It’s a reciprocal relationship, not extractive, not exploitative,” he explains. “Otherwise, you go the Easter Island route and you can’t live there any more.”

The struggle to return taro to ancestral fields is a part of a larger battle over questions of stewardship and sovereignty in the islands. Since July, activists have rallied at Mauna Kea, the great dormant volcano on the Big Island of Hawaii and the highest in the archipelago at nearly 14,000 feet. A sacred place, home to the gods in Hawaiian lore, it was part of the Hawaiian kingdom's crown lands, transferred to the United States upon annexation. Since 1968, it has been leased to the University of Hawaii to serve as the site of astronomical observatories. Thirteen major telescopes stand on the peak, and another, the Thirty Meter Telescope — projected to be the largest visible-light telescope in the world, able to peer further into space and cosmic time than ever before — was set to begin construction this summer, until protesters said no more.

Thousands have blocked the access road to the summit, waving the native Hawaiian flag — a *kahili* (royal standard) and crossed paddles against stripes of yellow, red and green — and asking for an end to what they see as a half-century of mismanagement of the mountain. Some go further, saying that the government never had a right to lease the land because it was stolen in the first place; they fly the state flag upside down, an international signal of distress. "It's not about the telescope," says Dean Wilhelm, the executive director of Hoʻokuaʻaina, a nonprofit on Oahu that uses taro cultivation as a means of empowering youth and building community. "It's about a continuum of disregard for the Hawaiian voice, in the name of 'progress.'"

Taro farmers across the islands have sent poi to feed the protesters, in solidarity. For a number of young farmers, growing taro has been part of learning — and earning — their Hawaiian inheritance, whether they are kanaka maoli or kamaʻaina. Note that embedded in the word *ʻaina*, "land," is *ʻai*, which means "food" in general but is also specific to poi. Almost every ancient tradition around the world has its roots in honoring the ʻaina, the land that feeds us. Penny Levin, a taro farmer on Maui and the executive director of the nonprofit ʻE Kupaku Ka ʻAina, which helps restore degraded lands to ecological health and abundance, says, "Behind the sacred is often the practical."

ISLANDS, AND THE people who live on them, must be resilient, vulnerable as they are to the whims of nature, alone and far from help in an impartial sea. Today, there are around 600,000 Americans of Hawaiian heritage — a dramatic revival from fewer than 24,000 a century ago — nearly 300,000 of them living in the islands and making up more than a quarter of the population. While part of this may be because of a change in the census allowing respondents to choose more than one ethnic origin, it also speaks to newfound pride in identifying as kanaka maoli. (Wilhelm remembers his Hawaiian mother telling him that she tried to keep out of the sun as a child, worried that her skin was already too dark.)

The native language, banned from instruction in public schools until 1986, is now studied and spoken at home in nearly 20,000 households, according to the census' most recent American Community Survey, and traditions long suppressed and then caricatured for tourists — like hula, criticized for its "immodesty" by missionaries and forbidden from public performance in the early 19th century by Queen Kaʻahumanu, a Christian convert — are flourishing. Reppun says, "Hawaiian culture got buried, like

Haloa" — the name of the Sky Father's buried child, who gave life to taro. "Now it's growing back."

For a people who came close to extinction, poi is part of a stolen inheritance, finally reclaimed.

But according to researchers, only around 60 heirloom varieties of taro are left out of an estimated 300 to 400 precontact — farmers call them *kupuna kalo*, using the Hawaiian term for elders — and they've been largely replaced by photogenically purple Maui lehua, a sturdy hybrid of two Hawaiian strains, Lehua maoli and Moi. The ascendancy of a single variety brings risks. If the standby falls victim to an accidentally imported disease or fails as the climate shifts, you need backups. Attempts at genetic modification have been met with resistance, because for Hawaiians, taro is a member of the family — literally, not metaphorically, just as to Catholics the sacramental Communion wafer is not a symbol but in fact the body of Christ. Crossbreeding is accepted, but there was an outcry when the University of Hawaii at Manoa was granted patents in 2002 on three new hybrids, which would have required farmers to sign a licensing agreement and presented the shocking notion that taro could somehow be "owned"; the patents were later rescinded.

And with less diversity comes a dwindling in flavors and textures. Even color has been lost: Poi can be a wide range of hues, including blue, yellow and pink, a shade once reserved for the *ali'i* (royalty), but an entire generation, raised on store-bought poi, has only ever known purple. Gone, too, are the names of the old taro, each with a story behind it, "some really rascally, some poetic," says Levin. On a couple of acres in Waihe'e, on Maui, Levin tends more than 50 heirloom varieties; she's gained intimate knowledge of how to nurture each plant. "If you pay attention, they teach you," she says.

Among them is apuwai, stocky with a corrugated leaf that holds rainwater like a cup; such water is considered sacred because it never touches the ground and was traditionally used in healing. The leaves cook down buttery, with a hint of lemon. Uahiapele, whose name means "smoke of Pele" (the goddess of volcanoes), has brooding purplish leaves, but when the sun hits them, their undersides blaze orange, and when simmered, they turn black. "You know how squid ink turns fettuccine black?" she asks. "Like that."

Every Thursday at the Waipa Foundation, on Kauai, volunteers gather to peel the skins off boiled taro corms and turn them into poi.Credit...Scott Conarroe

Still, reviving heirlooms is tricky when aiming for high production; for large-scale farmers, the hybrid has proved to be the most reliable. Asquith, a former biologist, believes that crossbreeding likely saved edible versions of taro from dying out on the islands, and muses that, after all, “heirlooms were new at one time,” themselves adaptations of the mother plant carried by the first canoes. What matters is growing as much taro and feeding as many people as possible. “What is the best taro?” Konanui once asked. “The taro that’s made the poi in the bowl on my table.”

Can the fate of an entire culture rest on a single dish? For a people who came close to extinction, that bowl of poi is part of a stolen inheritance, finally reclaimed, and a reminder that these islands were once theirs — that they belong here, and on this earth.

“DON’T BREAK THE shells,” Sproat-Beck calls out as her mud-splattered niece and nephew wade through the loʻi, plucking snails from the taro stalks and blithely tossing them in a bucket. Although the snails are pests, she wants to treat them gently, as they’re destined to land on dining tables at the Waipa Foundation’s Eat the Invasives fund-raiser — eating being the least wasteful way to eliminate such species.

When she was growing up here, on the north shore of Kauai, her family and neighbors still honored the old ways, working as one (or *laulima*, “many hands together”), taking out boats to surround schools of silver *akule* (bigeye scad) and drag them in nets to shore. Now, that communal imperative is reaffirmed every Thursday at Waipa, as

volunteers gather to peel the skins off boiled taro corms and turn them into poi, 800 pounds a week, which the foundation distributes at cost.

For Kauai, the oldest of the inhabited Hawaiian Islands, dating back 5.5 million years, progress came late and swift. The first traffic light wasn't installed until 1973, but by the end of that decade, tourists — more than 800,000 a year on an island of fewer than 40,000 residents — had jammed the narrow roads. In the early 1980s, word got out about plans to build a luxury gated neighborhood in the Waipa watershed, and a *hui* (group) of kanaka maoli from local communities, including Sproat-Beck's father, campaigned to preserve the land for Hawaiian practices. The first thing they did when they won: make poi.

Taro may have dwindled, but it never disappeared from the islands; the elder brother did not abandon humans, even as they drifted away. And while the crop may never again rise over tens of thousands of acres, as it did centuries ago, today's taro farmers, toiling in the mud, are working toward a different mission. It's not simply about profit — the price of raw taro generates just enough income to keep a small farm afloat — but about remembering and reviving a past long suppressed. Like formerly colonized peoples around the world, they're both fighting and looking beyond the need to fight, toward the day when they can simply celebrate what they have and who they are, and know that the old ways will continue, along with the islands themselves.

He wa'a he moku, he moku he wa'a, the Hawaiians say. "A canoe is an island; an island is a canoe." This is no Zen koan but a literal instruction on how to live: Given limited space and resources, if you don't share and conserve what you have and set aside differences to work together, you won't make it. And in the end, what is the world but an island writ large, marooned in a vast blankness, burning through its stores of food and fuel?

A canoe is an island. An island is the world.