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# INTRODUCTION

I AM A GEOGRAPHER BY TRAINING; THIS MEANS, SO I persuade myself, that I should pay close attention to those places that do not show up in today's atlases and maps. Among these places are the tangles of elephant trails that wind their way through the remote forestlands between India and Burma. Pensive giants traverse these trails with humans perched on their broad necks and backs. The routes they follow have a secluded and untraceable quality—shifting their position in seasonal cycles, inaccessible for motor vehicles, hidden from satellite view by tree canopy and monsoon clouds. If contemporary maps are to be believed, the elephant trails stopped existing once modern cartographers traded in their boots and mosquito nets for software manuals and subscriptions to satellite imagery databases. But contemporary maps are not always to be believed. The trails are still there. So are the trained elephants who tread these paths, carrying their riders, who are called *mahouts* in English (a loanword from Hindi) and *oozies* in Burmese.

I visited that sylvan country, in the shadow of the peaks where the green Patkai Mountains meet the precipitous white blockade of the eastern Himalayas, over the course of several trips during the mid-2010s. I always went to meet the working elephants and the mahouts who know them best, and to learn about the trails

that elephant and mahout follow into the obscurities of the forest. On my first trip like this, in 2013, I visited a hillside village in Burma (also known as Myanmar) whose human inhabitants lived in bamboo huts, their work elephants thundering about the jungle by night and hauling great teak logs by day. The monsoon season was just breaking, and the tropical landscape teemed with creatures who dwell in some intermediate state of matter, something between water, air, and earth. One day I was coming down a rain-soaked path by the village and my boots became stuck in the thick, viscous mud. As I paused to poke the sludge away with a stick, I was startled by a strange “skipping” snake that hopped by like a rabbit, bouncing from the ground into the air in fast three-foot hurdles, then gliding back into the mud from whence it came. At night torquing clouds of white flying insects arose from the spongy earth, seemingly hatched by the pattering of the constant rain. Some swirled through the falling droplets with goblin-like delight, while others crawled frantically along the solid matter of the bamboo human shelters, determined to get inside. During another trip, in a village at the base of the eastern Himalayas, I saw frogs hop along water surfaces like skimming stones. They went eight, ten hops at a time as if the liquid surface of a river were sturdy as rock, submerging only when they felt provoked into aquatic hiding.

From this green backcountry, where earthly elements blend together during monsoon, emerge the headwaters of the Irrawaddy River, Burma’s largest watercourse, as well as the upper reaches of the Brahmaputra, the Mekong, and the Yangtze—the great river systems of India, Southeast Asia, and China. These uplands have traditionally been a kind of no-man’s-land at the outermost margins of the various kingdoms and empires that dominate the fertile river valleys. The discharge of monsoon rains helps hold the lowland powers at bay, combining with glacial melt from the Himalayas to inundate mountain vales, rearrange local watercourses,

obliterate bridges, and obstruct highways with sudden landslides. Wheeled vehicles of all kinds become stuck fast in the mud and mire, as do the hooves of horses and mules. Boats and river rafts, though sometimes useful, are blocked by debris: felled trees, boulders, and silt.

The elephants, by contrast, thrive in these dynamic conditions—in the constant flux between sand, mud, and mist. At certain times of year, and for people doing certain kinds of work, the elephants are the best way of getting around. Trained elephants have comprised the centerpiece of the Burmese teak-logging industry up through the 2010s. At the turn of the millennium, this industry produced nearly 70 percent of the world's internationally traded teak wood—much of it felled, skidded, and then carefully arranged into neat piles by elephants ridden by their mahouts in the Burmese jungle.<sup>1</sup>

The elephants go where the roads cannot. The ease and skill with which they move across monsoon-soaked landscapes has made them optimal transportation during floods. In one famous incident during World War II, elephant convoys from Assam, a state in northeastern India near Burma, rescued hundreds of Indian, Burmese, and British refugees trapped at an upland river confluence near the Burma-India border. The area had flooded during heavy rains and was unreachable by boat, train, or truck. The British officers charged with running the operation took movie cameras with them; footage of the remarkable “emergency relief elephants” shows the animals and their mahouts fording a torrent of white-capped floodwaters on the approach to the refugees' camp. More recently, following the 2004 Indian Ocean tsunami, elephants assisted in cleanup efforts in northern Sumatra and southwestern Thailand, where the damage to local road infrastructure was so severe that jeeps and trucks could not be used.

Elephants appear in more routine circumstances as well. In 2017

I visited a river at the far northeastern tip of India, called the Sissiri. Scattered along its rocky floodplain are the ruins of makeshift log bridges from dry seasons past. Locals design these temporary bridges to wash away with the first intense summer storms in May. Once the bridge has gone, one can use a floating raft or a canoe to ferry people across. But by the time of high monsoon, in late summer, the river landscape is simply too unsteady for such floating craft. A good crossing point for a boatman in the morning might become obstructed with boulders, silt, and runoff forest debris by afternoon. So by late summer and early autumn, the crossing belongs to elephant and mahout.

Spending several August afternoons at this crossing spot, I watched from the shadows of a bridge ruin as an elephant named Burmay-Moti, a powerful female with a gentle expression, waded back and forth with passengers and bags of rice on her back. Her mahout, Pradip, was shouting commands from her neck and tapping his foot onto her ear. Some locals in the area, mostly members of a hill tribe called the Adis, refer to the elephant crossing as the elephant *ghat*—a Hindi word that intriguingly carries the double meaning of “riverbank” and “mountain range.” Throughout the crossing (which can swell to a mile wide after very bad storms, though it was only a hundred feet or so when I was there), Burmay-Moti displayed the sublime combination of power and sensitivity in her trunk, purposing the snakelike mass of intricate muscle to help passengers climb onto her back, or to check river fathoms for unstable boulders, or to hoist obstacles out of the way—or, when she was beyond the shallows, to breathe through a natural upturned snorkel. Under normal monsoon conditions, she could carry five or six human passengers on her back at once or, alternatively, several well-fastened motorcycles. Once, during an especially severe monsoon storm, she carried even more passengers than that: a dozen people in one trip. The diligent giant was needed for the rescue of

a large group of fishermen who had become stranded on a flooding midriver island. During this urgent operation, Burmay-Moti was working alongside her mother, Sesta-Moti (and Sesta-Moti's mahout), who also carried many people away to safety.<sup>2</sup> It's often the case that elephants involved in these sorts of operations in the forest work alongside their own family members.

The Sissiri River has a strong personality. For humans seeking passage across this dramatic and confounding landscape, elephants can be essential. During a monsoon storm, the Sissiri thunders, froths, and fans, hydra-like, five new broad courses born out of one, and these snake their way through great white boulders down to the Brahmaputra valley below. Every new week the monsoon brings a new and unfamiliar Sissiri to behold. New spates of rainfall, or breached mountain ice dams, engorge the valley with water and rearrange its riparian mess of channels, rapids, and shoals. Forest debris afloat on the current scours the landscape. The maintenance of permanent roads here is a Sisyphean task; meanwhile, elephants calmly traverse the beds of mud and winding streams, carrying passengers and cargo on their reliable backs.

Elephants have participated not only in everyday crossings through such seasonally flooded landscapes, but also in more clandestine, or subversive, pursuits. An elephant who can go where the roads cannot is an elephant who can move people and supplies in secret across wet, mountainous borders, beyond the view of military patrols or modern surveillance. For millennia throughout South and Southeast Asia—and more briefly in the sphere of the ancient Mediterranean—trained elephants were used for combat. But in this remote hill country of the Southeast Asian and northeastern Indian uplands, “war” elephants have served not as cavalry but rather as facilitators of secret human movements. Examples of this sort of thing are surprisingly recent. In the Burma theater of World War II, the British rode elephants across the Patkais to

escape the Japanese invasion, and the Japanese employed elephants in the construction of their Burma-Siam Railway (a project made famous in the film *Bridge on the River Kwai*). The conflict between the Allies and the Japanese over Upper Burma was brutal, the “Stalingrad of the East,” as some in the wartime press called it. As the region’s natural “transport vehicles,” the elephants became objects of intense struggle. Some memoirists who survived wartime operations in the region suggest that elephants were the key to controlling not just Upper Burma but also its pathways between India and China—and thus by extension the key to the entire Asian theater of the war.

The postwar period, despite its increased mechanization, did not render the transport elephant obsolete. During the Vietnam War, Vietcong mahouts rode elephants along the famous Ho Chi Minh Trail, under cover of the forest canopy, so as to keep the flow of supplies hidden from American reconnaissance planes. Elephants have similarly proved instrumental in Burma’s numerous insurgencies over the past half century, especially in Kachin State, in Burma’s far north. Here an armed ethnic organization called the Kachin Independence Army, or KIA, utilizes some fifty to sixty elephants for moving goods about the jungle. These clandestine “elephant brigades,” the last of their kind in the world, were still very much active in the 2010s. The elephants carry passengers and goods—jade, gold, food, medicine, and arms—across river courses similar to the Sissiri, across remote hill ranges, and through secret mountain passes. The militia soldiers prefer these elephant-mounted convoys in order to avoid the better-equipped Burmese army, whose patrol trucks and jeeps are confined to the region’s sparse network of all-weather roads. Traversing the refuge of the Kachin forest, the KIA elephants sometimes cross paths with wild elephants, with whom they mate; elephant pregnancies are inconvenient but happy occasions for the brigade.

ners. After all, over the millennia, we have developed complex working relationships with other large or midsize mammals, such as horses, cattle, or dogs. Among these animals, though, Asian elephants are highly unusual. Humans have selectively bred these other species around specialized practical tasks. Domesticated dogs have been bred into many varieties for hunting, digging, retrieving, guarding, attacking, pulling sleds, rounding up sheep, and so on. Similarly, horses have been bred for racing, cavalry warfare, or hauling heavy wagons. Cattle have been bred for dragging plows, in addition to producing milk or meat. Camels have been bred for racing, or for carrying people and baggage across arid regions. And of course, humans have bred a number of other animals (cats, sheep, chickens, and so on) who don't "work" in the sense of performing imposed tasks separate from their natural inclinations but nonetheless provide benefit for people.

But humans have never selectively bred elephants.<sup>4</sup> Elephant generations take too long—usually two decades, or ten times longer than a dog generation. (The specialization that a dog breeder achieves over fifty years would take an elephant breeder half a millennium.) Furthermore, elephants resist mating in micromanaged, human-controlled environments, preferring the relative freedom of the forest. How is it possible that elephants, despite having never been selectively bred by humans, have nonetheless proved to be indispensable work partners for humans in the forest? The work can be complex and cognitively demanding. Sometimes the tasks that the elephants perform have incredibly high stakes: rescuing people stranded during a flood, for example. And yet elephants weren't selectively bred to do this. To appreciate how extraordinary this outcome is, where the elephants just "happen" to be good at these sorts of urgent and complex jobs, it's helpful to further pursue an analogy with dogs. Imagine if, instead of using a Saint Bernard as a mountain rescue dog, or a Belgian Malinois as a bomb



sniffer, humans attempted these same tasks with wolves—wild animals captured directly from their natural habitat and then trained for a few years—and that it *worked*. That is in effect the situation of Asian work elephants.<sup>5</sup>

*Giants of the Monsoon Forest* goes to a remote part of the world to understand how people live and work with elephants in the forest, and why they've done so for millennia. People in these remote areas haven't been selectively breeding the elephants, in the sense that a dog breeder breeds dogs or a horse breeder breeds horses. But they have been employing the elephants in tasks that give the elephants substantial periods of time in the forest every day to roam and mate with a considerable degree of freedom. In fact, these work elephants' daily pattern might sound familiar to anyone with a nine-to-five job. They do transportation or logging by day. Then, in the late afternoon or early evening, they are released into the surrounding forest to wander, sleep, forage for food, and mate with each other and with wild elephant herds passing by. The next morning the mahout comes to "fetch" the elephant, to return it to its daily work site, a logging tract or a cross-forest trail. An elephant employed under these conditions has a much better chance of reproducing than an elephant trapped in a spatially enclosed environment like a zoo.<sup>6</sup> With access to fresh vegetation and room for plenty of exercise, work elephants in the forest tend to live much longer than the elephants in zoo compounds: one scientific study suggests over *twice* as long.<sup>7</sup>

In this book I argue that Asian elephants have in effect formed a kind of interspecies "alliance" with humans who seek to go where roads and wheeled vehicles cannot. Perhaps these humans covet resources in areas where topography or weather conditions hinder the construction and maintenance of permanent roads. Perhaps, for political reasons, they're trying to avoid other groups of humans who are "road-bound": military patrols, for instance.

Perhaps they're trying to harvest a crop that grows best in quiet, roadless forests. Humans with any of these compulsions or motivations are of special interest to Asian elephants, from the standpoint of elephants' survival. And over hundreds of generations, Asian elephants have in effect cultivated skills that make them useful to those humans. While it's important not to naïvely romanticize this relationship (a relationship that can sometimes be harsh or even abusive), the dynamic between elephants and humans presents clues about how the giants have survived for so long and how they might survive in the future.

In exploring this argument, we'll enter the shared world of forest elephants and their mahouts. We'll see how mahouts catch elephants in the forest and train them, and how these elephants balance the duality in their lives, where they are both working animals and "wild" ones free to mate with passing herds. We'll watch these elephants perform complicated work, even devising their own ingenious solutions to urgent problems like river logjams, rescue operations, and emergency construction projects. The elephants' intelligence and acute situational awareness have often made them brilliant co-workers for humans. We'll look at examples of intense wartime escapes on elephant-back from the combat zones of World War II, the Vietnam War, and the ongoing Kachin conflict in Burma's far north. The elephants possess unique evasive or "fugitive" skills, and we'll examine how their partnership with humans may have resulted from gradual historical and geographic processes involving co-species migration and escape—processes that never affected or shaped the Asian elephants' more numerous cousins in Africa. In Africa, as we'll see, the history of elephant domestication presents a different sort of drama.

An important aim of the book is to give readers a sense of what might be "done" with Asian elephants during the remainder of the twenty-first century. Today the demographic trendlines for Asian

elephants are very grim. By this century's end, the species seems likely to succumb to what some paleontologists are calling the "sixth great extinction," the tsunami wave of species extinguished by the activities of humankind.<sup>8</sup> Are there promising strategies of avoiding this outcome for the Asian elephants—of saving the species? On a continent whose human population is in the billions and will certainly continue to grow, is it nonetheless possible to set aside sufficient forest ranges for Asian elephants to become a completely and sustainably wild species as they were millennia ago? Alternatively, are there favorable future roles for the elephants as work animals, roles that can still keep these amazing creatures happy and help them flourish once again? In the book's final chapter, I propose one such possible role: elephants as helpers in flood relief operations. This could ally Asian elephants with a human need that seems likely to expand in future years, as a growing human population finds itself, increasingly, on flood-prone terrain.

Some might find it helpful to think of this book as a kind of "ethno-elephantology"—a term coined in recent years to describe new research, among anthropologists, geographers, historians, biologists, and others, aimed at better understanding the complex relationship between elephants and people.<sup>9</sup> Much of the research done in this area has focused on elephants in tourist parks, government-managed wildlife preserves, and religious festivals. Mostly omitted have been the domesticated elephants of the frontier forest zones, where elephants are released into the forest each night and fetched each morning.<sup>10</sup> *Giants of the Monsoon Forest* looks to this frontier.

Throughout the book I refer to a wide array of ethnic groups from which forest mahouts tend to hail: Kachin, Hkamti, Karen, ethnic Burmese (Bamar), Assamese, Moran, Adi, and others. Many of these groups are small ethnic minorities, and a reader can be forgiven for finding this whirlwind of ethnic names a bit bewildering.

ing. The involvement of so many minority peoples in forest-based mahoutship is no coincidence. Elephants are most useful as labor where an infrastructure-building state is weakest. The groups likeliest to be living in such areas are so-called “hill tribe” minorities. Indeed, keeping the state at arm’s length was often the reason these groups took to the geographic margins in the first place. The use of elephants for everyday work helps such groups derive wealth from their forest surroundings and in turn consolidate power—a power connected directly to the continued existence of this canopied hinterland. The elephants get something from this arrangement too. By associating themselves with these humans and their forest-based economy, Asian elephants boost their own likelihood of inhabiting the sort of landscape in which they tend to be healthiest and happiest: a large forested area, buffered from the “normal” human world of huge cities, farms, and motor traffic along busy roads.

During the mid-2010s, I traveled to two regions where mahouts work with elephants in the forest. One region was central Burma. Here I visited teak forests where the Burmese government uses elephants to drag valuable timber. This elephant logging system follows the synchronous life cycles of humans, elephants, and teak trees. In the government’s teak-logging villages, a mahout and an elephant may grow up together as children, reach peak work age at the same time, and enjoy retirement side by side. The teak wood is harvested in maturation cycles lasting between three and eight decades, depending on the desired wood quality. Though this would be a rare event, the same elephant-mahout pair could conceivably harvest a single timber tract twice: once as teenagers and again in their fifties, each time replacing mature trees with saplings.<sup>11</sup>

Another area I visited I’m calling the Trans-Patkai region, a tribal area straddling the Indian-Burmese border, encompassing Burma’s Kachin State, parts of Burma’s Sagaing Division, and the eastern part of the Indian state of Arunachal Pradesh. Unlike cen-

tral Burma, this is an area of relatively weak state control over forest territory and over the elephant-riding peoples therein. The huge crescent formed by the Patkai Mountains bisects this region. I use the odd term *Trans-Patkai* partly to emphasize commonalities in the elephant cultures on both sides of the mountains, and partly to obscure the precise location of certain politically sensitive activities practiced by some of the mahouts, whether on the Indian or the Burmese side of the international border.<sup>12</sup>

For a Western visitor raised on Conrad and Kipling, the Trans-Patkai can seem a land from the recesses of some dark and vivid imagination. Here is a land of tigers and great hornbills, of tribes that hunted heads until just a generation or two ago, where animist worship of forest spirits is widespread and many communities have their own "deathly priest"—their shaman who prays to the forest spirits in incantations of obscure origin. Meadows of opium dot the hills, and militant rebels cross jungle streams on elephant-back. Camp life is everywhere: the camps of hunters, elephant mahouts, and panners for gold. People's houses here are made of bamboo and cane, fetched from the surrounding woods. For much of the year the region is blanketed in the thick clouds of monsoon that obstruct the watchful eyes of modern satellites passing overhead.

In part, such romantic impressions can be misleading. People here drive cars and motorcycles and talk on cell phones and read the internet for news. The wage economy has eclipsed alternative economies almost everywhere, and the formal industrial sector here is not so different from that of the United States a few generations ago: mining, oil, coal, and sugar all loom large. One will pass a crater that used to be a hill, that once had monkeys, hawks' nests, and jungle cats: now the hill is a pile of gravel that will become a road to provide access to another hill full of potential gravel.

And yet one's initial romantic sense that danger, beauty, and mystery lurk beyond each mountain ridge would not have been entirely

wrong. Beyond the gravel roads lies a hidden world of work camps and communities linked by elephants. Here the typhonic force of geographic elements reigns, especially during the monsoon season, as windy storms beat upon the mountainsides and huge flows of rainwater, mud, and uprooted trees block the advance of wheeled vehicles. When mudslides and floodwaters swamp the roads' uppermost reaches, a different logic of movement necessarily emerges.

The normal world, the "exposed" one to which we're accustomed, has not been good to the elephants. It builds endless roads and replaces forestlands with cities, towns, and farms. Sometimes the exposed world will put elephants in zoos or in gated park compounds. The people of the exposed world often mean well when they do this. But it's ample forestlands, with plenty of room to migrate and eat bamboo and wade through running water, that these giants need most of all. Zoos and fenced parks cannot replicate such conditions. By contrast, the setting of this book is among the least deforested areas remaining in South and Southeast Asia, despite this setting's position directly between two areas of incredible human density, India and China. The unique partnership here between elephants and humans has been a major factor in this remarkable geographic outcome and has helped resist the forces of deforestation.

**FORTUITOUS TIMING** made this book possible. Some two-thirds of the world's domesticated elephants who are released into the forest at night are in Burma. Since the 1960s, Burma's main experience has been one of military rule, economic isolation, and instability due to interethnic civil wars and ethnic cleansing campaigns directed against minority peoples. A study like this one would have been far more difficult, perhaps impossible, to undertake at any point from the 1960s through the 2000s, especially for

an outsider. The mid-2010s, though, were a period of relative liberalization and democratization for the country. During my first few trips, optimism seemed to be in the air, among nearly everyone I spoke with: in Yangon, in the central Burmese upcountry, in the eastern hills and in Kachin State.

Sadly, during the last year or so of the research, the military began to reassert its control over the country's fragile parliamentary system. Potential peace deals in the far-north Kachin conflict stalled or collapsed. And by 2017 the military regime and some sympathetic militias were conducting a full-blown ethnic cleansing campaign against the Rohingya minority people along Burma's Bangladeshi border. Hopefully these recent conflagrations of violence, oppression, and military authoritarianism will rapidly extinguish themselves. Perhaps they'll prove to have been merely the final death throes of a fading repressive regime. But I cannot help but anticipate that, in a few decades' time, the mid-2010s—the period when I was able to speak with many Burmese forest mahouts about their lives, their work, and their unique knowledge about elephants—will seem to be a historic exception.

It also would have been impossible for me to do this research alone. In addition to knowing how to ride an elephant, the “perfect” researcher for this kind of work would have to know the Burmese, Assamese, Hkamti, Jinghpaw (Kachin), and Karen languages. I had just English and beginner's-level Burmese and Jinghpaw. Everywhere I went, I had guides who were multilingual and consistently brilliant. In the chapters that follow, I refer to them by their first initials or by altered names. Nor are all the mahouts we interviewed fully named. I took such precautions to protect the identities of several participants in the research. These people's time, energy, attention, and resourcefulness made the book possible. I will have to find ways to express my gratitude to them other than by naming them. At times I felt the guides, along with a

number of the interviewed mahouts, understood my research and research questions far better than I did.

We have very little “hard data” pertaining to Asian elephants who live deep in the forest, in areas with relatively weak state presence. The topic is necessarily composed of the impressions formed by people who have lived and worked with these giants in such remote places. More often than not, such people articulate the complexity of their impressions and experiences through the vivid stories they tell about their lives in the forest and about the elephants they’ve known.





## Chapter 1

# CATCHING ELEPHANTS

I WAS IN THE REGION I'LL CALL THE "TRANS-PATKAI." Fifty million years before, the Indian continental plate had collided with Eurasia, scraping along a head of land to the east that formed the green march of the Patkai Mountains. It rammed with far greater violence to the north, to force up gargantuan masses of rock: the Himalayas. These two mountain ranges merge in a kind of topographic eddy that swirls across a series of high passes: the Pangsau, the Chaukan, the Phungan. During the epoch of human history, the mountains have divided powerful kingdoms and states: the Patkais separate India from Burma; beyond the Himalayas lie Tibet and China. Yet the passes through these mountains, though high and remote, compose regional entities in their own right. The Kachin, Hkamti, Lisu, and Naga peoples all have populations on both sides of the Patkais, linked by the passes.

I arrived in that transmontane region when the mustard flowers were in full bloom. The landscape was awash in yellow, broken by the greenery of nearby tree groves and undulations of dark mountainous forest. Vistas of distant snowy peaks occasionally emerged between the trees. I was with a local guide, whom I'll call Sang, on the sandy bank of a river. The spot was tranquil except for the occasional braying of black and brown goats who grazed on a steep

grassy slope behind us. The slope led upward toward a lonely bamboo hut on a high crest, with yellow fields beyond.

The drive here from the main road followed what was barely a dirt track and took nearly an hour. At one place, the track was obstructed by a swampy pool, filled with the overflow from an adjacent stream. Scattered messily across the pool were planks of wood. "Ah," said the guide. "We'll have to get out for a moment." He and the driver set about retrieving the planks from the reachable margins of the water. Having collected a dozen or so, they carefully arranged the pieces in a tracklike pattern, engineering a temporary causeway. This was what the wooden planks were for, but they'd been dispersed by the previous week's hard rains. The next such rainfall would scatter the planks again, and the next motor traveler down this quiet path would have to repeat the process. "Why does no one build a permanent bridge?" I asked.

"No point," replied Sang. "In the really dry season, it's so dry that you don't need any bridge. In the really wet season, it's so wet that a bridge would wash away, even a very good one that was bolted down. And anyway, this whole road from start to finish can't be used at all during the rainiest time of year; you'd walk—or with heavy cargo, you'd use an elephant."<sup>1</sup>

At the end of this drive, we stood at the remote riverbank, with the group of goats and the vast yellow mustard fields up the hill. The guide gestured across the river to the opposite shore. "Jacob—here they are!" Three massive elephants emerged from the forest and stepped into the reeds. They were carrying two men each, one perched on the neck and the other sprawled across the arched back. The three elephants waded toward us, the men smiling and waving. The guide spoke with them in the local language. The men were friendly but could not help but overawe. The three sitting on the aft hips of the elephants were armed, with rifles slung across their backs. Everyone wore scabbards that held long machetes. Huge

coils of heavy ropes and dark chains were piled up like pythons on the elephants' backs. The elephants themselves were enormous, some of the largest I'd seen in Asia, around nine feet at the shoulder. It was as if the men were riding on houses.

"Khoonkie elephants," Sang pronounced with satisfaction. This was what he and his partner the driver had brought me, across the swampy dirt track and the endless mustard fields to this riverbank, to see. These were elephants that I'd only read about in books. Khoonkie elephants (called *pansein* by some people in central Burma) were, from the standpoint of the local elephant people, the smartest and bravest of the tamed elephants, the ones with the strongest instincts for protecting the humans riding on their huge bodies.<sup>2</sup> Their job, during this time of year, was to help humans catch wild elephants. It was not the most difficult job an elephant could get, necessarily—that distinction likely goes to the work performed by the Burmese logging elephants whose specialty is clearing midriver logjams. But it was certainly the most dangerous job for the *humans* involved. Only a special group of elephants was selected.<sup>3</sup>

The three men riding on the necks of the khoonkie elephants were called *fandis*: master elephant catchers.<sup>4</sup> The three armed men riding on the elephants' backs were their assistants. Fandis have three methods of catching wild elephants. In the pit method, they dig a hole and cover it with branches and leaves. Then, riding their khoonkie elephants, they chase a wild elephant into the hole. Skilled *fandis* disdain this method, as the wild elephant usually injures himself or herself in the fall and thus makes a poor work elephant in the long run.<sup>5</sup>

In the second method, sometimes called *kheddah*, or *gor shekar*, a huge stockade is built in the forest, made of wooden pikes strapped together with strong bark rope. From the air, the stockade resembles a symbol for gamma, a huge V with a tiny circle at the point ( $\Upsilon$ ).

Elephants are chased into a broad opening in the stockade that gradually narrows until reaching a passageway, through which the stockade opens again into a circular compartment reinforced with the strongest pikes. The narrow passage is then barricaded behind the elephants.<sup>6</sup> These stockades require much time, planning, and investment to build, but they have the advantage of being able to trap many elephants at once.

Guy Tachard, a French Jesuit visitor to the Ayutthaya kingdom in Siam in the seventeenth century, described a kheddah of breathtaking scale. The Jesuit, a sometime astronomer, was there to observe a lunar eclipse, but since this astronomical event was still several nights away, the Ayutthaya king offered to take him to see the elephant hunt occurring in the nearby hills. The king had employed tens of thousands of royal subjects in the construction of a vast stockade, whose open section, the Jesuit tells us, extended outward for ten leagues: over twenty miles. The hunt took place at night. A long row of thousands of men swept through the forest, carrying torches and beating drums, frightening many hundreds of wild elephants into a retreat that would take them into the stockade opening. The Jesuit wrote of the spectacle of the torches: "it seemed to me in the dark the finest sight and loveliest illumination I ever saw."<sup>7</sup> One might dismiss Tachard's story as hyperbole, but a separate account by an ambassador from Persia supports his estimate of the operation's mind-boggling scale.<sup>8</sup> The Ayutthaya kings, skilled in hospitality and diplomacy, seemed to enjoy showing off this incredible procedure to emissaries from abroad.

Today the stockade method typically occurs on a much smaller scale, with the open section extending outward for several hundred yards and the elephants captured in groups of five or six rather than hundreds at a time. Burma's government-run timber industry,

which employs elephants to haul teak timber out of the forest, was running these smaller kheddah operations as recently as the 1990s.<sup>9</sup>

But these six fandis sitting atop their huge khoonkies were engaged in a third method of elephant capture, known as *mela shekar* (also called *kyaw hpan* by some masters in central Burma): the lasso or rope method.<sup>10</sup> In this method, the lead fandi, riding his khoonkie elephant, swoops in on the flank of a wild elephant in the forest; if the fandi is right-handed, he and his khoonkie approach from the right. In the meantime, the two secondary khoonkies encroach from the left. If all goes well, the wild elephant freezes, unnerved by this unexpected behavior from the three khoonkie elephants. The lead fandi tosses a huge rope around the wild elephant's head. The noose of this lasso is much larger than that of a typical cattle rope and must be tossed with two hands at once. With both hands occupied, the lead fandi can't balance himself on his khoonkie elephant, who is likely pivoting and maneuvering to control the movements of the targeted wild elephant.

To keep himself in place, the lead fandi wears thick pants made of fibrous canvas that are fastened to ropes around elephant's chest and neck. These pants are sometimes painted in a striking rainbow scheme, which helps the other fandis and khoonkies to keep watch on the lead fandi during the commotion. The lead fandi also has an assistant behind him, who is ready to cut the ropes if the lead man's life seems to be in danger—or to use his rifle if need be, though this is exceedingly rare. If the lead fandi succeeds with his rope, then the fandis on the other elephants throw additional ropes. Once lassoed by multiple lines, the wild elephant, grasping the severity of what has occurred, may crash into the forest in an attempt to escape, and the khoonkies all give chase. Usually this results in the ropes becoming entangled around several trees. The wild elephant at this point might put up a fight, but its struggles are

controlled by the ropes and the intimidating presence of the three khoonkie elephants.<sup>11</sup>

The most acute danger in the mela shekar process arises when the fandis have chosen to capture a wild elephant calf. Calves offer clear advantages for capture: they are easier to lasso and train, and they can provide more decades of service as work animals than a captured adult. But the mother of the calf is usually nearby, and faced with the prospect of losing her offspring, she fights more fiercely than would a huge male tusker who finds himself ensnared in rope. Multiple fandis I spoke with in this region recounted incidents where their khoonkies fought off enraged mother elephants, thus saving the fandis' lives. Others spoke of fellow fandis—friends, brothers, uncles—who'd died this way. The breaking up of elephant families, and the subsequent aftermath, is in fact the major disadvantage of the mela shekar capturing method. The fandis worry less about the potential loss of human life due to the rage of the protective mother elephant—such deaths are rather rare—than about the trauma experienced by the captured calf, which tends to subtract from its psychological reliability and work potential. Fandis get better results if the mother and calf can be captured together, as often happens in the stockade method.<sup>12</sup>

Nonetheless, mela shekar also has some clear advantages over the stockade method. The stockade method involves a huge outlay of human labor. Usually whole bureaucracies have to be involved. It also leaves a significant mark in the forest landscape, as trees must be felled to make pikes, and the pikes, unless removed, obstruct the movement of other forest animals. The mela shekar method is flexible, requiring relatively little advance planning (though years and years of training are needed) and only a small handful of humans and elephants. It also leaves virtually no visible mark on the forest—which, if the magistrates in some far-off capital city have passed

ordinances against elephant capture, might be the most important advantage of all.

At the riverbank with the three khoonkies, the mood was cheerful. The three fandis and their assistants had recently caught an elephant calf. Apparently the operation had gone very smoothly, with no violent attacks from a mother elephant. The calf was tied up deep in the forest country across the river, and the fandis were checking on it daily, initiating the training process. They brought bamboo shoots and rice treats for the calf to munch on while they chanted words into his ear. Soon the training process would turn grimmer, mixing negative with positive reinforcement. Eventually, the elephant would likely be sold to nearby mahouts in the region, to do transportation work during the monsoon season, and to work in forest tracts moving valuable pieces of felled timber.

The fandis insisted I climb onto one of the big khoonkies and ride with them up the hill toward the sprawling fields above, where we would have lunch and talk. I hesitated. Up close the elephants' size was daunting. The biggest was the largest contiguous mass of living flesh I'd ever beheld. Growing up in New England, I'd seen humpback whales in the Gulf of Maine, but I'd never seen more than a few sections of these mammals at once, as they remained largely submerged. I'd seen African savanna elephants in zoos—but those were simply not this big. Or perhaps the big khoonkie before me simply *seemed* bigger than an African savanna elephant, because he was carrying two people and a large jumble of heavy forest equipment, and because I knew, from my books and interviews, what this elephant could do.

I was especially intimidated by the big one. The fandis were amused: "*Borsat. Bat! Bat bat bat . . .*" The huge elephant, Borsat, sat down. "You will ride Borsat," the guide informed me.

Tungpa, Borsat's fandi, retreated onto the elephant's back and

helped me climb to his abandoned perch on the pachyderm's nape. From behind me, the fandi gestured to a rope slung around Borsat's neck. The rope had a loop on each end, into which I ought to place my feet. Looking at these loops, and also at my feet, Tungpa and I both realized that he and I were really very different sizes. The loops barely made it past my knees. I looked at the knot on the midsection of the rope that shortened or lengthened it. Fumbling with the knot seemed risky, as it required both hands, and Borsat could stand up at any moment and send me flying. The elephant, however, seemed to grasp that some adjustments to the ropework on his neck were needed, in order to transport this awkwardly proportioned human who'd suddenly been added to his burden. He stayed very still. Eventually I got the foot loops to the appropriate length, and Borsat stood up.

Encouraged by Tungpa, I attempted to give some commands. I tried a term for "get up, go." Borsat seemed uninterested in my voice.

"Tap his ear with your foot! That's how you tell him to turn!" the guide Sang shouted up to me. I tried this too. Borsat snorted scornfully out of his trunk, and the fandis laughed. Borsat remained stationary.

Behind us, the fandis' assistants were in the river, washing off the mela shekar equipment. A fisherman drifted by on a bamboo raft. Finally, the other two khoonkie elephants set off up the hill through the grass and brush, scattering the braying goats. Borsat, motivated more by interest in his elephant friends than by my clumsy commands, followed the other two. I leaned in toward the giant's great domed head, to keep my balance as we made the ascent. Borsat tilted leftward and rightward navigating the slope, my spot on his neck swaying like a small boat riding an ocean swell. The path became gentler, and we made our way across the rippling yellow fields in the direction of the Patkai foothills.



**LATER I WAS** eating a meal at the house of Vithaya, one of the three fandis. Vithaya lived with his wife and daughter in a bamboo house with a thatched roof. It stood a mile or so from the spot where he and the other fandis had emerged from the forest with the titan Borsat and the other two khoonkies. By this point in the day, the three khoonkie elephants had been released to roam freely in the forest nearby, where they'd remain until the next morning. Then they'd be fetched, and the whole team—the six humans and the three elephants—would go back to the captured calf.

The main room of Vithaya's bamboo house was organized around a fireplace. There was no chimney, as such a contraption would have let in too much water during the rainy season. Instead a large multileveled smoking rack, also made of bamboo, dangled from the ceiling. Here pieces of pork and deer were left to char for months on end, a method of preserving them as jerky. Above, the underside of the thatched roof was stained black from smoke. We were eating pork that had been roasted over the fire, along with a salad made of fresh ginger and herbs picked from Vithaya's garden. There was also a kind of bitter fruit, similar to gooseberries, that turned sweet with a sip of water. One of Vithaya's fandi friends fidgeted with a bamboo opium pipe in the corner of the room.

"We have some important rituals for mela shekar," Vithaya explained in his own language, and Sang translated. I was scribbling notes. "Some are secret things—"

Vithaya's friend in the corner cut in to say something I did not understand. There was laughter. The guide smiled and explained, "They're joking that you don't look like a professor." After a pause, he added, "I think the fandis here are wondering about you and about why you are interested in mela shekar. They can understand

that a Westerner would want to see wild elephants or maybe go on a safari ride. But why would you want to know about what they do, the catching elephants part?"

I'd explained this many times in all the places I'd conducted my field research, in as many ways as I could think of. But I could never succinctly explain my whole jumble of thoughts. "I'm here to learn about people who work with elephants in the forest," I began, "and who permit the work elephants to roam in the forest at night, so they can eat there and mate with wild herds. Very few people where I'm from know these practices exist. I'm not comparing these work elephants with elephants who live in the wild their whole lives; I'm comparing them with captive elephants elsewhere: in zoos, at tourist parks, in stables—places where the elephants don't have the ability to roam the forest." I was already making this too long-winded and complicated and cut myself short.

The guide rephrased what I'd said in the local language. There was more chatter, and smoking. "They are saying that with your beard and unkempt hair, you maybe look like an 'activist' and not a professor," Sang mused. But by this time he and the fandis had relaxed and were discussing what an American geography professor is "supposed" to look like. More chatter and chuckling. Vithaya, apparently satisfied, gestured to his friends to quiet down. He returned to the spiritual rituals: "For mela shekar, the main ritual is to sacrifice one farm bird at home, then bring a second bird with us into the forest. This forest sacrifice is for the wild elephant's own ghost rider, or spirit-mahout." The pipe was passed from fandi to fandi. "You see, every wild elephant in the forest has its own spirit-mahout. As fandis, we are taking this spirit's elephant away. So we must bring the spirit something as compensation. And if we don't, then the spirit-mahout will interfere with the whole mela shekar process. The spirit will conjure up bad luck and cause bad things to happen."<sup>13</sup>

Fandis throughout the Trans-Patkai region follow something

like the ritual Vithaya described, for appeasing “spirit-mahouts” associated with the wild elephant herds. The commonality is somewhat surprising, since Trans-Patkai fandis hail from at least three ethnic groups, the Kachin, the Hkamti, and the Moran—groups that differ in many respects, including religion. The Kachins are mostly Buddhist on the Indian side of the mountains and Christian on the Burmese side; the Hkamtis on both sides are Buddhist; and the Morans are Hindus. But all three groups retain varying degrees of local animist practices: the worship of the local forest spirits, including those who ride wild elephants.

A Moran fandi from the region, now in his eighties, told me a remarkable story involving these “spirit-mahouts.” The fandi, Miloswar, used to have an elephant named Sokona. Sokona was a fabulous khoonkie, highly intelligent and attuned to his fandi’s needs. He had naturally small tusks that limited his usefulness for logging (logging tuskers can hoist huge logs up by balancing them on their tusks) but were a good feature for a khoonkie. Without large tusks, the khoonkie was less likely to accidentally gore the captured elephant during the commotion of mela shekar. Furthermore, male elephants’ facial muscles tend to grow larger and stronger when they don’t have to spend a lifetime counterbalancing long tusks. The added size and strength are advantages for khoonkies as well.<sup>14</sup>

Earlier in his life, Miloswar recalled, he and his fellow fandis received word that a new group of wild elephants was in the nearby woods. The migrating herd had descended from the mountains in search of fresh bamboo shoots and water. In his haste to get into the jungle, Miloswar rushed the spiritual ceremonies. He was the group’s lead fandi, and Sokona the lead khoonkie. Approaching the wild herd in the woods, the team came upon a mother elephant and her calf. Sokona approached the two, and Miloswar threw his rope, aiming for the baby. But he missed, and freakishly, the loop wound up around the mother elephant’s head instead. At this point

Miloswar shouted to the other fandis, "We'll catch the big one!" since his line was attached to her. But she was an especially powerful elephant, and the other fandis could not land their ropes. She charged through the forest. Sokona, with Miloswar and Miloswar's assistant riding on his back, chased after her, trailing by a rope taut as a harpoon line. The rope never tangled in tree branches as was usual. After several intense minutes of pursuit, Miloswar and his assistant realized the chase was hopeless: she was too strong and fast and was having too much odd luck with the rope and the trees. Miloswar took out his machete to cut the rope, but in the tumult the machete slipped from his hand.

Sokona meanwhile was still barreling after the wild female and pulsating with exhaustion. The assistant tried to loosen the knot that fastened the lasso line to Sokona's rear belt, but with the speed of the chase and no hands free for balance, he was thrown from the elephant. The other fandis found the assistant on the forest floor with a broken leg. Miloswar, seeing how dangerous the situation had become for him now, released his canvas pant buckles from Sokona's neck and leaped off. Landing on the forest floor, he was dazed but not as badly injured as the assistant behind him. Sokona and the wild female, still connected by the lasso rope, disappeared into the jungle.

One man stayed with the assistant whose leg was broken, while everyone else climbed onto the remaining khoonkie elephants and followed the trail of broken branches blazed by Sokona and the wild elephant. Much later in the day, they caught up with the elephants. The rope had finally become entangled in some trees. Sokona and the wild elephant did not appear to have fought each other at all during the wait. They were both exhausted and stood there in the shade, eating shrubs and creepers. Miloswar cut the rope, and the wild elephant escaped. He took Sokona home.

From that point forward, though, the khoonkie was never the same. He was never as obedient with Miloswar as he'd been

before—as if his mind were always somewhere else. “He just didn’t act like a normal khoonkie anymore,” Miloswar remembered. “So I always wondered if maybe I did the ceremony beforehand too fast, and this was why this mishap occurred. I wondered if maybe while the two elephants were waiting for us to catch up with them, Sokona was taken, or possessed, by that wild elephant’s spirit-mahout.”<sup>15</sup>

Miloswar became more and more animated as he told this story. He leaped up from his seat and gestured with his arms to convey the motions of the rope, the chase, the fall. His whole family was gathered around: his wife, his sons, their wives, and several grandchildren. Electricity ran through the room. The audience was transfixed, though perhaps they’d all heard this story before. When it was over, he retreated to his seat: an octogenarian once again.

This belief in spirit-mahouts holds that domestic and wild elephants are like mirror images of each other. From a spirit-mahout’s point of view, the wild herd is “domesticated,” and the humans’ elephants are “wild.” Genetically, work elephants are indistinct from wild ones. An individual elephant can go from being wild to being domesticated, and though this is more unusual, it can also go back to being wild. We could think of the sacrificial ritual the fandis perform as a way of compensating for the difference between the number of elephants who go from the wild into domesticity and the number who go from domesticity back into the wild.

Of course, there is another way of looking at the story of Sokona. Something transpired between him and the wild female while they were both tangled up together in the trees, the fandis still hours away. Some idea, or mindset, was communicated between the two giants—something that touched the khoonkie to his core and altered the burden of thoughts that he carried with him during his remaining days. After Sokona’s behavior shifted, Miloswar gave the elephant to another mahout and does not know what happened to him.

"I DON'T SEE the mark."

I stared at the forest floor. It was a beautiful morning in the low mountains of central Burma, where elephants drag great logs of teak from the forested slopes to roadside timber depots. The sunlight percolated through the trees in brilliant beams. Mists from the nighttime dew rose from the horizon, turning the tall narrow trees in the middle distance into a shadow-theater of silhouettes.

"I still don't see it."

P., the guide, kept pointing. "It's right there." His index finger followed the sylvan floor from the spot beneath me to the mahout walking up ahead. The mahout was named Otou, and he climbed a slope in front of us. "That's the mark the elephant left last night. We'll find Gunjai soon."

I followed P. in Otou's direction. After much studying the ground, I could make out some faint version of what the two Burmese men saw so clearly: a mark left by a long chain that Otou's elephant Gunjai had been dragging during the night. The mark would wander through the forest soils and across piles of fallen leaves. Then a huge fallen log would obstruct our path, and the chain mark would disappear again. "Over there," Otou would say, pointing. We'd walk for several hundred feet—and the mark would suddenly start once more. Here and there Otou would drag his foot perpendicularly across the chain mark, indicating to other mahouts in the area that this trail didn't lead to their elephant.

We climbed hillsides choked in vines and creepers. Otou and the forest guide both seemed sleepily comfortable, but I was already winded and perspiring. It was just after six a.m. Distractedly, Otou removed a machete from a green scabbard at the end of his sash and started thwacking at a baby bamboo shoot. "The baby shoots are very hard," P. explained. "He'll make it into a new handle for his

knife." We proceeded through a gully and into an area of low brush. Here at last Otou looked perplexed. "Gunjai the elephant likes to play tricks." The mahout looked at us. "You stay here." Otou jogged up ahead and looked around. "No, no, he didn't go that way. He's clever and naughty." We returned to the gully. "He went down the gully and doubled back," Otou mused. "To confuse me. He's done it before." While climbing along the gully toward a hillcrest above, Otou explained other such elephant tricks. "Sometimes they pick up leaves with their trunk and stuff them into their wooden bell. That way the bell makes no noise and it's harder to find them." This trick might buy an elephant another thirty minutes or an hour before the mahout finally finds him, and the workday begins.<sup>16</sup>

Hearing about such tricks as we followed the elephant's path, I recalled a story I'd read from a British forest officer, Bruce, who was stationed in these jungles in 1903. He once saw a female elephant running away from her mahout. The attendant ran after her, shouting for her to stop and trying to catch the long chain attached to her leg. Seeing that the mahout was getting too close, the elephant picked up the chain with her trunk. She galloped off into the jungle, holding the chain triumphantly overhead; Bruce did not say whether this elephant was ever found.<sup>17</sup>

Evidently the double-back at the gully was the only trick Gunjai had in store for us today, for promptly the air began to fill with the *tink tink tink* of a wooden bell, a sound that could almost be mistaken for the babbling of a stony brook. The bells are carved of teak, and each one produces a slightly different note, identifiable by the mahouts. These elephant bells are a Burmese custom: one tends not to see them in the work elephant areas of northeastern India.

We found Gunjai at a grove of bamboos, munching tall blades of grass. He wasn't a beautiful creature, at least not from the angle we approached. In fact, he looked ridiculous. His belly bulged outward, full of fodder consumed during the night. He was a *mokona*

elephant, a male born without tusks. In a normal herd, a certain percentage of the males always carry this trait. Isolated herds adjacent to ivory hunters will sometimes lose all their males with the tusker gene, leaving only mokona males. This seems to have happened in much of Sri Lanka, as well as in a section of the Patkai Mountains called Tirap.

“*Dwa! Dwa!* Come here!” Otou’s commanding voice stopped short of a full shout. The elephant looked and snorted. His trick hadn’t worked well enough. He stepped toward the mahout and released a quantity of steaming dung, as if to make a point. It was a dreadful display. But his belly looked more elegant now. I forced my way through the bramble to get a better look at Gunjai. He had the nice high forehead typical of mokona elephants. His long trunk ended in a splotch of pink.

A chain connected the elephant’s two front legs: the fettering chain. Elephants released into the forest at night almost always wear one. The fetters are slack enough to permit the elephant to walk comfortably but not to run. This way the creature rarely wanders more than a mile or two from the evening release spot. Otou removed Gunjai’s nighttime chain.

More often than not, Gunjai would be found close to the base area, usually as little as a half-mile away, but the route of the mark left by his dragging chain, which often wound in confusing patterns through hills and gullies, took Otou on long excursions that sometimes lasted over an hour. This was the morning ritual. It occurred to me that some time could be saved if the elephants were wearing GPS devices. Perhaps the time saved would make it possible to loosen that fettering chain more—or to remove it altogether.

P. interrupted my musings. “Why don’t you step back from the elephant, Jacob,” he said. “I don’t think he likes you.”

The guide perhaps had a point. As we followed the elephant, who now had Otou on his neck, the huge animal kept glancing



back at me and P. and nervously walking faster. "I spend a lot of time with this elephant, and we always get along. It must be you." P. gave the matter some thought. "It's your trousers!"

He explained. That morning I was wearing beige pants that resembled the trousers that timber industry officials wore when they did surprise inspections. Otou and the guide, by contrast, were wearing traditional Burmese *longyi*: long fabric wrapped around the waist like a skirt. Gunjai knew the mahouts hated surprise inspections from the officials, so he hated them too. My pants and height and my general manner suggested to the elephant that I was an industry official, a member of the Burmese professional class. Not a mahout.

I liked P.'s theory. If it wasn't right, it surely ought to be.

We reached a small watering hole—too small, as the springs in these hills were running dry—and Otou began to wash Gunjai with a brush. The elephant clearly enjoyed the procedure. This relaxing bath was his daily reward for agreeing to exit the forest and begin the workday.

"What do the mahouts here do during *musth*?" I asked Otou as he scrubbed the elephant. Musth (pronounced "must") is a hormonal surge that male elephants experience—and females too, on rare occasion—which causes black tears to flow from glands near their eyes. The black tears are followed by a visceral urge to mate, which is followed by bouts of aggression and violence. A biologically important component of elephants' reproductive behavior, musth places forest mahouts in close proximity with the elephants when they were at their most dangerous. To me, this hormonal surge sounded like a serious impediment to the elephant-based work in the forest.

"It depends a lot on the elephant," Otou explained. "What we usually do here is let him go into the forest for a few days or a week. We try to let him get the musth out of his system. Usu-

ally during that first week, he just wants to mate and doesn't feel aggressive at all, and really he isn't so dangerous. But later the aggression sets in, and at this point we have to tie him up. Sometimes we tie him up by the ear. If we just tie him by the legs, he can break free with his strength or even knock down the tree he's tied to. But if we do it by the ear, he knows not to move." Sometimes, Otou went on, mahouts don't immobilize the elephant until after a mishap. The elephant in musth might attack another elephant. Or he might knock over someone's hut or even kill a person. But such events were rare.

Listening to this, I thought back to similar conversations about musth I'd had in the Trans-Patkai area to the north. Two tribal logging mahouts—one Kachin, the other Hkamti—told me their musth strategy was to give the elephant more tasks to do during the day, in the hopes that the extra burden would leave him too exhausted to become aggressive.<sup>18</sup> But a retired commander of the elephant transport brigade of the Kachin Independence Army described an approach similar to what Otou was telling me: during musth, the militia's mahouts give the elephants time off in the forest.<sup>19</sup>

Gunjai's bath was over, and he and Otou came up from the watering hole. P. the guide had found a bush full of sweetflowers and offered me one, demonstrating how to suck out the sugar. Then, as if proving to me that he was indeed old friends with this elephant, so the issue really must have been my pants, he hoisted himself onto Gunjai's neck and set off down the hill.

**THE CAPTURE OF** wild elephants and the nightly release of work elephants are foundational practices for the human-elephant working relationship in this part of the world. The nightly releases are needed because of the sheer quantity of fodder an elephant requires, which is around six hundred pounds each day.<sup>20</sup> An ele-

phant engaged in cross-forest transportation might require less food at night, since the elephant probably spent much of the daytime munching on shrubs and bamboo shoots along the forest trail. Nonetheless, from the mahout's point of view, the nocturnal roaming period is a required element for keeping the elephant a healthy, happy, and reliable co-worker. A British elephant logging official from the colonial period, James Howard Williams (or "Elephant Bill," as he was nicknamed), remarked that in these forests a work elephant is really domesticated only "eight hours of the twenty-four."<sup>21</sup>

The nighttime wandering period also gives the elephants time to sleep and to mate: either with other domestic elephants or with elephants in wild herds passing through. Domestic female elephants free to wander the forest on a nightly basis leave progeny with far greater frequency than females stuck in enclosed compounds like zoos. Domestic males with this same freedom mate with wild females, which to some extent (but not fully) offsets the reduction in the wild population due to capture.<sup>22</sup>

The capture of wild elephants out of the forest, through methods like *mela shekar* and *kheddah*, is similarly vital, as it provides the mahouts with a significant number of their elephants. Though mahouts will often say that the elephants born to domesticated mothers make the best workers, female work elephants are less likely to mate during the night when work areas become isolated from wild elephants' migratory routes. This problem has become especially pronounced with greater forest fragmentation in recent decades.<sup>23</sup> Elephant capture can help offset such losses. A mahout may also turn to capture in order to supplement his herd while one of his females is pregnant or nursing her young. (The pregnancy period lasts around twenty months.) Though *fandis* sometimes "overcatch" elephants and destroy a wild herd, usually they do so to feed demand for elephants from tourist parks or from religious

organizations that need elephants for their parades—not from the logging and transport mahouts. Lacking external demand, the forest population should tend toward an equilibrium, where the number of wild elephants who are caught by fandis and sent to work with forest mahouts is counterbalanced by the wild herd's birthrate, as well as by occasional escaped domestic elephants who rejoin the wild herds.<sup>24</sup>

Agricultural interests consider huge forested areas in the Trans-Patkai region to be cultivable and profitable for staple crops like sugar, wheat, and rice and thus present deforestation pressures. But numerous groups here have a direct stake in the continued existence of the forest, and these groups' mutual interest is the basis of a kind of forest-centered coalition. That coalition consists not only of mahouts and fandis who use elephants for logging and transport, but also poppy growers, gold panners, and hunters, all of whom need the forest as well. Rebel militias in the region (in particular the Kachin Independence Army and the National Socialist Council of Nagaland) depend upon the forest to provide cover for their clandestine operations. The Kachin Independence Army depends not only on the forest canopy but also on the elephants for moving supplies about in secret. Add to these affinities bonds of kinship, clan, and language, and suddenly the forest-centered coalition, with which the caught elephants have managed to align themselves, starts to look very formidable: the strongest network of such forest interests anywhere in the Asian elephant's natural range. But remove the fandis from the picture, as well as the input of trained elephants that they provide, and conditions begin to favor agricultural expansion and consequent deforestation.

One area I visited in the Trans-Patkai revealed what happens when elephant capture is removed from the local picture. In this area, police have been especially aggressive over the past decade in pursuing and arresting local fandis who capture wild elephants.

(Hence my decision not to name this location.) As a result, mela shekar is dying here. This shift has gone hand in hand with a decision among local elites to transition the local economy away from forest resources and toward farming wet rice in paddy fields. However, as the paddy fields spread into former forestland, domesticated elephants have begun wandering into the paddies at night. Consequently, the local elites have told local mahouts to keep their elephants chained to trees during the night. The local elites—who are usually the formal owners of the elephants—have done this reluctantly and unhappily, but the feeling has been that the rice paddies need to be protected, because they are compensating for local economic losses due to cessation of local elephant capture.

Because this village is located in an especially lush jungle zone, the elephants can be confined by 100 to 150 feet of chain at night and still find sufficient fodder. Nonetheless, the chain means the domesticated elephants cannot seek out wild herds and potential mates at night. And so even as the community receives no new elephants from mela shekar, its females are not becoming pregnant. Sometimes mahouts try to conjure pregnancies by leaving their elephants tied up in corridors they think wild herds will pass through; it's not clear yet whether this sort of thing can be effective. Due to these interconnected factors, the political and economic system here is in the process of "tipping" from being forest-oriented toward being farming-oriented, and the long-term situation for both the elephant-keeping culture of the area and the local forestlands looks very uncertain.<sup>25</sup>

This is not to say that, in areas with less police intervention, the elephant-keeping cultures of the Trans-Patkai region have necessarily succeeded in expanding local elephant numbers or even in maintaining a level population. Overall, numbers in the Trans-Patkai have not been definitively tallied by anybody, but they seem likely to have gone down over time.<sup>26</sup> Even so, the pressures against the

local elephant population seem to have more to do with deforestation, ivory poaching, and market demand for captured elephants from distant religious organizations and tourist compounds than with mela shekar captures aimed at keeping the elephants situated in these forests. Likely, some captures of elephants have even helped move elephants away from forest areas with ivory poachers and toward safer sections of the forest, since poachers are less likely to encroach upon the forest turf of armed fandis and mahouts. Indeed, some mahouts remarked that the reason they bring their guns into the forest is only secondarily to protect themselves from wild elephants and other dangerous animals; primarily it's to protect their elephants from poachers.<sup>27</sup>

The working relationship between the two species must be understood with open eyes. When talking to the fandis of the region, I usually had to harden myself before listening to certain descriptions of mela shekar—and especially the subsequent training process. In the Trans-Patkai, a captured elephant is usually tied up for months on end in the forest, each leg fastened to a tree. The fandis will deny food to the elephant at first, then gradually bring more and more fodder, and eventually rice and salt treats, to reward the elephant for learning the command terms and developing desirable human-friendly behavior. Sometimes the relationship can retain this abusive dynamic long after the training period is over. The working relationship can sometimes be complicated and cruel, a topic we'll return to in Chapter 6.

Yet even with these troubling aspects of the relationship between forest mahouts and their work elephants, the mahouts' communities have proven more adept at resisting the economic pressures associated with deforestation than have areas elsewhere in the Asian elephant's natural range. And elephants require that forest cover, to eat, to mate, and to be happy. Through the unique combination of elephant capture, elephant employment, and nightly elephant

release, such communities have been able to meet this requirement of forest access in a way that no one else in the world has.

Some indignant outside observers might assert that all these elephants should be left in the wild, and that the remaining forestlands should receive sufficient investment and protection to safeguard the wild elephants' migration corridors. In reality, such indignation has not been effective at stopping deforestation in this part of the world. While a number of practices among some *fandis* and *mahouts* here cannot be defended from a conservationist standpoint, overall *fandis* and *mahouts* have a great deal to teach concerned outsiders about how human beings, as morally imperfect creatures, can act as guardians rather than destroyers of the forest's last giants.