

13 Ways of Looking at an Elephant

Cheryl Merrill

I

Among twenty snowy mountains, The only moving thing Was the eye of the blackbird.

Thirteen Ways of Looking at a Blackbird by Wallace Stevens

If there were no human witnesses, would there be a world? Would the elephant have a name if we were not here to provide one?

There is a cold way of seeing that clips wings and stifles our words into faint echoes. But there is also a way of seeing where the eye is like a mouth, swallowing color, taking in the entire world with one choking gulp.

A rabbit has a 360° field of vision, so that it might gauge the distance between itself and its attacker. Humans have front-facing, binocular vision. It's hard for us to look at where we have been and where we are going, impossible to see both the stars and the ground at once.

An elephant's vision is front facing, binocular, but an elephant also has a large blind spot caused by its nose. Place both hands between your eyes in the manner of prayer and you will see what I mean. The rods in an elephant's eye register mostly greens and blues, helpful to a creature who needs huge amounts of water and browse. It is said that elephants will stare at a full moon; do they also see the stars?

What would it be like to think without words and recognize shapes without names?

There is a cave of light from our eye to our brain. But it is the corners of our eyes that perceive the most light; the corners of our minds where we begin to understand. Π

I was of three minds, Like a tree In which there are three blackbirds.

Caught in a triptych of time, anticipating before during after

I am about to ride an elephant. Soon it will all be over. In the meantime there is

Before. It's obvious that an elephant isn't any smaller when I look down from a tree platform than it is when I look up from the ground. If anything, his back is as broad as an aircraft carrier, and the same shade of gray. I shouldn't have any trouble landing there. And then comes

During. Someone holds my belt like a landing hook and I crash onto the carrier deck, right behind the elephant's ears. My hands tightly grip the rope around his neck and my knuckles turn white. Don't look down, I tell myself. The elephant walks right toward a low-hanging branch. And don't forget to duck, I add. He slaps his ears against my legs and it feels like getting hit with heavy canvas tarps. I reach out and touch a trailing edge, which is soft and thin as worn silk. It's torn in spots, as if someone yanked out several earrings. From time to time the elephant periscopes his trunk, testing the ocean of air that eddies over the surface of Africa. Then he lets his trunk drop, as if nothing in those currents is new or interesting. I rub the edge of the elephant's ears and he responds with a loud whosh, the sound a whale makes, and I feel, though I can't hear, a vibration that almost seems like he's purring. Then the elephant leans against another tree platform and it is

After. And it becomes memory. Time is now irrelevant. The elephant and I share existence in three places, perched along a branch of time.

III

The blackbird whirled in the autumn winds. It was a small part of the pantomime. The wind spirals, speaking in small scrolls of dust, inscribing its passage as if an elephant's trunk had made random marks in the sand. The wind's vortex collapses, picks up again, endlessly renewing.

Sundown declares itself; the light scent of moisture thickens air as plants exhale. It's a time when shadows deepen and sunlight enriches. Tree silhouettes change hue from green to deep blue to green-black, to black. The shapes of smell, our first language, condense as light fades.

Something is hugely dead over there in the trees. Thick decomposition sickens the atmosphere with a chest-crushing odor. Hyenas slink by and vultures decorate skeleton branches, outlines of doom.

If wind is the breath of the earth, then the earth's teeth are rotten and its breath reeks of carrion. Two-and-a-half million elephants have been killed in Africa in 100 years, mostly for their teeth, for their ivory. That's 25,000 year after year after year after year for one hundred years. More time than most of us individuals have lived.

Could this be called genocide? Look, over there, lines of the living file past, handkerchiefs to their mouths. Some walk by with eyes averted, pretending not to notice, even when the wind provides ample evidence.

IV

A man and a woman Are one. A man and a woman and a blackbird Are one.

When we stand this close, she can hear our hearts beat. As our heart valves bang shut, the flesh of the heart vibrates and then the chest wall vibrates and sound moves out from us like ripples on a pond. Her large ears flare toward us, listening not to the wind that blows from our mouths, but to the symphony of our bodies. She rumbles, and it reverberates in our chest cavities. We hum back, sing a low, wordless song. She is mesmerized, motionless, trying to understand our oscillating meaning. Then the air around us condenses, washes over us in waves. The sounds of an unknown world pulsate just below our range of hearing.

Not only can this elephant hear her heart beat, and our hearts beat, but she can also hear the life within, each thumping heartbeat of her unborn child.

On our way home to our own cages the moon rises, a whetstone that sharpens our desires. We lie together, heart to heart, listening. We each have roughly one billion heartbeats for our lives. Mouse, hummingbird, elephant, human, all the same.

Cut our hearts into shreds and the pieces of them still beat.

v

I do not know which to prefer, The beauty of inflections Or the beauty of innuendoes, The blackbird whistling Or just after.

Our feet anchor us to the ground. Just as my Pleistocene ancestors read the tracks of mastodons, so I now gaze down at an elephant's footprints in the dust. Her front feet are oval and her back feet round. City slicker that I am, even I can tell the direction she is going. I point my camera at the ground, take a picture of her tracks. Our paintings on cave walls, carvings on bone, the exposure of light on glass plates full of chemicals, digital cameras, electrons arranged in display across computer screens—is it the destiny of the human race to remember and record?

Whether descended from the apes or arising from them, man evolved into *Homo sapiens*, the species that occasionally thinks, the only creature with written histories ranging from palm prints on cave walls to messages sent voyaging into space. Tracking footprints through time is a great skill of ours; keeping close to the earth, our roots, is not. There are few times we go barefoot, our toes squishing through the mud.

We are not the only intelligent eyes and ears on this planet. From the air waterholes in Africa are hubs with spokes radiating into the bush, networks of life. Some of these worn paths are generations old, harmonious with the landscape, arteries that flow around obstacles and toward places of safety and browse. Compacted by many feet, they are safe passages across treacherous quagmires that would swallow you and me. Such paths make so much sense to the feet that they can be followed in the dark. The old highway from Nairobi to Nakuru in Kenya zigzags down to the Rift Valley floor. It was once an ancient elephant route.

Following two paths, the one beneath her feet and the one in her mind, the elephant strolls past our vehicle. Dust rises, a half-shadow that marks her passage before collapsing again to the ground. I take a picture of her footprints for my albums. Eventually all of our written pages crumble to dust. There is a before and an after to each moment of our lives, paths we follow and paths we do not.

VI

Icicles filled the long window. With barbaric glass. The shadow of the blackbird Crossed it, to and fro. The mood Traced in the shadow An indecipherable cause.

Alone,

alone,

two steps forward, two steps back,

the elephant sways to a rhythm no one, not even she, can hear. Two steps forward, two steps back, the drag of her leg chain counterpoints her movements. Swaying, her head dips to one side, then the other. Her motions are born from a numb brain, from uncut boredom, from the measurement of a life by that which does *not* happen.

Beyond the invisible barrier, the one solid to her touch, a jerky stream of humans flows past, day after day. Their powerful odors overwhelm her, and she touches her temporal gland, samples her urine, the only familiar smells left. At the end of each day, after the humans are gone, she hears a multitude of rumbles, but none have resonances she can recognize.

Sometimes she will lie down on the huge square stone into which she is entombed and sleep. There are no stars over her head.

She ceased calling out to her kin a long time ago. The nearest elephants, total strangers, are 85 miles south and they are absolutely unaware of her.

As near as she knows, she is the only elephant left on earth.

VII

O thin men of Haddam, Why do you imagine golden birds? Do you not see how the blackbird Walks around the feet Of the women about you? For sale: one elephant. Make that 30 young elephants, separated from their families in Botswana, and shipped to South Africa to be trained by Indonesian mahouts. Oh, and the lions. Don't forget the lions. The ones raised in captivity and destined for release into hunting parks to be shot by wealthy trophy hunters. Don't forget the zebras, nyalas, rhino, kudu, spiders, reptiles, birds. Or the cheetahs that suffocated during shipping to the Far East, the giraffes that died after a month at sea, and the ostriches who fell through the bottom of their flight container when it became saturated with their urine. Don't forget they too were for sale.

Young elephants are usually not weaned completely until the age of 4 and stay with their mother until the age of 12. All 30 elephants captured in Botswana were between 2 and 10 years old. These traumatized and frightened calves were transported by road to a warehouse where they were tied up and beaten. Training, it was said, for their sale to circuses, zoos, and elephant-back safaris.

When the elephant simply moved its trunk or shifted its weight, the mahouts would all hit it. . . . I counted that during this training session of 20 minutes, the elephant was hit, or stabbed, with an ankus a total of 136 times.

That's 6.2 times a minute, or once every 10 seconds. Count to 10, then try not to duck when the blow comes at you. Do this 136 times. Do this when you are two years old, or five years old, or ten years old. Carry this skill with you for all your days, for up to 60 years.

About 100,000 wild animals are hunted and killed annually in South Africa alone. The message we send to the elephants among them is this: Do not believe you are safe, that game reserves and parks are set aside for the profit of wild animals. Do not believe for one minute you are safe. Not when there is a price on your head.

VIII

I know noble accents And lucid, inescapable rhythms; But I know, too, That the blackbird is involved In what I know.

It's a catchy tune, one that loops round and round inside our heads. The announcer takes center ring, resplendent under a spotlight in top hat and

tails. "LADIEZZZ AND GENTLEMEN! BOYS AND GIRLS OF ALL AGES! WELCOME TO THE GREATEST SHOW ON EARTH!

And indeed it is. Here comes the parade of animals, prancing horses, muzzled bears, tigers roaring in their cages on wheels. Here come the elephants in pink tutus, performing night after night to that same inescapable rhythm which now marches into our ears.

There's exhilaration tumbling inside us as the great beasts circle center ring. We have tamed them; they obey our commands and kneel before us. We ooo and aah and clap at these exotic creatures from far-off places. We laugh at the clowns and at ourselves. Each and every one of us wants to run away and join the circus, relief from our humdrum lives.

When we exit the canvas tent our imaginations deflate a little, but our wish to master the world does not. We go home and try to teach new tricks to cats curled in our armchairs. Few of us go to sleep listening through thin canvas walls as lions roar close by.

Buddhists believe a person would do well to model themselves after the elephant. Not the ones in pink tutus circling and circling to the same song, for they are most like us, made over in our own image. We should instead metamorphose into great gray patient beings standing naked in our own skins under the stars and the sun. Perhaps then we could live again in full relation and relearn ancient rhythms. Perhaps we could rejoin the world of fellow beings if elephants were our masters and we knew what they know.

IX

When the blackbird flew out of sight, It marked the edge Of one of many circles.

Just beyond the edge of darkness where the light of our fire does not penetrate, an elephant thunders by, trumpeting the whole way, a classic illustration of the Doppler effect, sound that condenses, rises in pitch, crescendos, blows by, drops pitch, recedes. Waves of sound undulate away from us, oscillating horizontally, kin to ripples on a pond. We use such waves, Doppler radar, to see individual drops of rain, to know when we should run for cover.

The outrage of the elephant is extinguished in our ears, but other elephants a mile away are just beginning to hear it. Resonance fills the night air around us, but we are deaf to the world below our range of hearing. Elephants use low-frequency rumbles to communicate over huge distances, coordinating their movements when they are as much as 10 miles apart, even warning each other when they are being killed.

How much of the world are we missing, circle upon circle? Perhaps instead of placing ourselves at the center we should move to the edges where our skills are low and our learning curve high. We should extinguish our fire and sit in the darkness listening, really listening.

х

At the sight of blackbirds Flying in a green light, Even the bawds of euphony Would cry out sharply.

The water rushes by, rushes by, rushes by. The water rushes by, rushes by, rushes by. The water closes eye, closes eye, rushes by. The water rushes by, rushes by, rushes by. The water fills ear, fills ear, rushes by. Under, under, air, air. The water rushes by, rushes by, rushes by. Not to die, not to die, not to die, not to die. Hold on, hold on, air, there is air. The water rushes by, rushes by, rushes by.

Two days under water, trapped between trees, her trunk wrapped around a limb barely above the waterline, the elephant survived, emerged from a brown world into a green one and was taken back to the zoo. For 26 years she lived there alone, trusted only one keeper to give her a bath after she nearly drowned. Sixteen years later she killed a different keeper and was transferred to another zoo where handlers dragged her from the transport truck by her leg chains and beat her for several hours, hitting repeatedly on the back of her legs with wooden bats. Twice she was hit so hard her legs buckled and she fell. The citizens of her new city were enraged and the city council voted to send her to an elephant sanctuary—where it is always green.

There she is coaxed from the truck by melons and greeted by three elephants already living at the sanctuary.

Two of the elephants are inseparable buddies, old circus performers united after 22 years. Both limp from badly healed broken legs and one's hide is covered with scars suffered when her circus ship caught fire. The third elephant, the social one making up for lost time, spent 45 years alone in a zoo. Three elephant trunks explore the newcomer's underweight body and partially paralyzed trunk. Then they touch the tips of their trunks to hers, breathe into each other, and begin to resuscitate her life.

XI

He rode over Connecticut In a glass coach. Once, a fear pierced him, In that he mistook The shadow of his equipage For blackbirds.

The first time I got into one of those bright yellow safari vehicles it felt wrong, like I was going on a ride in some entertainment park where plastic rhinos charge from the brush and canned lion roars issue from behind concrete rocks. It didn't feel natural. I wanted to walk.

"No, no," exclaimed our guide, "the animal not see you in this truck. You are part of this truck. Get out . . ." his hands flutter like scrambling impalas "... they all go away. This is best."

But in some areas of Africa, traffic congestion is increasing within national parks, congestion nearly like the noxious bumper-to-bumper herds of vehicles in Yosemite National Park in the United States. One day at Etosha, in Namibia, we were followed by a full-sized lumbering pachyderm of a bus that we could not shake until we dodged down a sandy, fourwheeler path and hid behind a clump of trees. Etosha is well paved and highly accessible. We saw more late-model sports cars than big cats.

Already there are too many travelers into these last, unspoiled places. It's disconcerting to be sitting in an open vehicle, in the middle of Botswana, and have an elephant fall asleep next to you. It's amazing he felt so comfortable with human voices.

Which kind of elephant do I prefer: the one that accepts me as part of the landscape, even when I'm in a bright yellow Land Rover, or the one that turns tail and runs at the slightest whiff of human scent? Given the elephant's uncertain future and the continued existence of poachers, the answer is not easy.

There's a third alternative not possible anymore: an elephant that has never seen a human.

"The river is moving. "."The blackbird must be flying

A gray dawn and the full breasts of clouds are about to overflow with rain. Tree fingers sway in the wind, stroke the clouds. The earth is ready to suckle; it's been a long, dry summer.

On my computer screen is the image of an elephant in mid-drink, trunk curled into his mouth, head tipped back, eyes closed. Outside my window, rain releases into the throat of dawn and water gurgles down the drainpipe fixed to the side of my house. I step outside into the scent of freshened earth rank with dust and flowers.

I know that as he drinks the elephant is making the same sound as my drainpipe, only the water is going up, not down. With each swallow the elephant imbibes the taste of dung, droppings from all the animals that use the waterhole where he drinks—zebra, rhino, wildebeest, gemsbok, springbok, warthog, ostrich, giraffe, and the occasional furtive flavor of lion. Elephants travel great distances, dig holes in dry riverbeds, and excavate water pipes just to get at divined moisture.

I inhale the particular earthiness of my yard, tip my head back, close my eyes, open my mouth and taste the cold, clean rain. I try to imagine how the myriad fragrances and essence of water seep into the crevices of an elephant's brain, form stalactites of recognition, coat memory with a familiar sweet drowsiness.

Elephants spend a lot of time near waterholes after they drink, often in a state akin to daydreaming. Perhaps they are memorizing the story of the water, pathways of taste and smell, twists of plot and character and fate. Perhaps elephants carry entire natural histories in their memories: rivers of thought, watersheds of existence.

XIII

It was evening all afternoon. It was snowing And it was going to snow. The blackbird sat In the cedar limbs.

XII

CHERYL MERRILL

Near the waterhole a rumbling glacier of elephants surrounds us, moving down to drink. Some individuals pass by close enough to snatch us right out of our seats, but they accommodate us in their world, a boulder in the stream. We are still as birds huddled on branches. It's cold in the twilight, but we do not shiver. Here in this part of Africa it never snows.

But even here, with elephants all around us, this bit of the wild requires a fence to keep out the tide of humanity that floods our planet. We are successful predators, you and I. We dominate the scattered remnants of leftover Eden, little arks of biodiversity stranded on rocky mountaintops, in rivers, in clumps of forests, and on a few windswept plains. The only place safe from us is the depth of the ocean and even there we are probing, probing.

We have given ourselves authority over the citizens of this planet. In the name of conservation and preservation we have locked our fellow citizens onto reservations, taken the rest of their land, eradicated them by the millions, made their teeth into piano keys upon which we play our endless songs. If we were as tolerant as elephants we would take little notice of fellow beings parked in our backyards.

Entire ecosystems are dying around us, yet we are busy as bees in our unnatural hives, too busy to notice we are consuming all the honey we make and more, saving none for winter. And when we have consumed even the oceans; when we stand shoulder to shoulder with no room to move; when the weight of the earth shifts, rolls over, and shrugs us off, what will we know of cold then?

Is this the afternoon of our time on earth? What are those bits of white falling from the sky?

NOTES

Ι.

If there were no human witnesses . . . In quantum mechanics, a multiple-state system is "a closed book with an infinite number of pages . . . reality does not exist until a reader comes along and opens the book, usually at a well-thumbed page . . . an observer collapses the system into one of its component states." Lyall Watson, *Lightning Bird, One Man's Journey into Africa* (E. P. Dutton, 1982), 222.

It is said that elephants will stare at a full moon . . . In his January 25, 2001, field note Doug Groves wrote: "It is not just that they notice the moon, it is that they do so in a fun, light hearted, playful and perhaps romantic way. . . . They make goo goo eyes at it and pull faces. To experience these creatures fully, you have to be anthropomorphic" <www.livingwithelephants.org>.

Websites: <www.elephanttrust.org>, Cynthia Moss's Amboseli Research Project; <www.elephants.com>, the Hohenwald Elephant Sanctuary; <www.wildnetafrica.com>; <www.elephantsanctuary.org>, Riddle's Elephant and Wildlife Sanctuary; <www.panda.org>, information on Asian elephants; <www.elehost.com>, basic elephant facts. One website that provided amazing hours for observation of Africa's elephants is, alas, no longer with us: www.africam.com. Their placement of 24-hour-a-day video cameras at various waterholes throughout southern Africa was an ambitious and inspiring project. May they someday return.

Books: Joyce Poole, Coming of Age with Elephants (London: Hodder & Stoughton, 1996); Katy Payne, Silent Thunder: In the Presence of Elephants (New York: Simon & Schuster, 1998); Barbara Gowdy, The White Bone (New York: Henry Holt & Co., 1998); Delia and Mark Owens, The Eye of the Elephant (Boston: Houghton Mifflin, 1992); Cynthia Moss, Elephant Memories, rev. ed. (Chicago: University of Chicago Press, 2000); Iain and Oria Douglas-Hamilton, Among the Elephants (New York: Viking Press, 1975); Ronald Orenstein, ed., Elephants, The Deciding Decade (Toronto, Ontario: Firefly Books, 1997).

II.

In 1996 while in Botswana I had the great fortune to be introduced to Jabulani, who, in one gracious act of forbearance, carried me into the world of elephants. Jabu no longer carries tourists, but is instead involved in outreach programs to resolve human-wildlife interactions. He can be reached, along with his herdmates Morula, Thembi, Doug, and Sandi, at <www.living withelephants.org>.

Something is hugely dead . . . personal experience at Savuti, in Chobe National Park, Botswana.

CHERYL MERRILL

Two and a half million elephants have been killed . . . is a conservative figure. Sources include "DNA Tests Show African Elephants are Two Species, <www.nationalgeographic.com>, March 2001; CITES [sight-tees], the Convention on International Trade in Endangered Species, <www.cites.org>; and Orenstein, Elephants, The Deciding Decade, 13–14.

IV.

Elephants can hear sounds of very low frequency, well below our human range of perceptions. These deep vibrations are similar to the beginnings of earthquakes, thunder before it crashes into frequencies we can hear, and the deep movements of earth during the eruption of volcanoes. The discovery of elephant infrasound is documented in Katy Payne's *Silent Thunder*.

Chai, an Asian elephant at the Woodland Park Zoo in Seattle, Washington, gave birth to a baby girl, Hansa, in November 2000.

... one billion heartbeats ... George Johnson, "Of Mice and Elephants: A Matter of Scale," http://charm.physics.ucsb,edu/courses/ph6b_99/0111299 sci-scaling.html>.

as our heart valves bang shut . . . cut our hearts into shreds . . . Gustav Eckstein discusses cardiac muscle in *The Body Has a Head* (New York: Harper & Row, 1969),114, 135.

V.

The Pleistocene era spans a time from 1.5 million years ago to 10,000 years ago. No more than 30 miles from my home is the Manis mastodon site in Sequim, Washington, where a mastodon was killed and butchered 12,000 years ago. A bone projectile point was found embedded in one of the mastodon's ribs. Mastodons were slightly shorter than are their elephant relatives, but more heavily built with upward curving tusks.

We are not the only intelligent eyes and ears on this planet . . . Cornell University's Bioacoustics Research Program is sponsoring The Elephant Listening Project in the Central African Republic. Microphones attached to continuously recording disk drives were placed around an elephant study site. Sounds from the synchronized microphone network are analyzed by computer and correlated with certain behaviors <http://birds.cornell.edu/BRP/EleLP.html>. An article in the *New York Times* reported Katy Payne's reaction to one of the videotapes: "Two female elephants peered up at the observation platform, making audible, deep rumbles that sounded something like an idling outboard motor sloshing behind a boat. Their ears flapped as one spoke, and then the other. This was clearly a conversation of sorts, Ms. Payne said, tantalized by the prospect of finding out what it was all about. 'There lies five lifetimes of incredibly interesting work,' she said, with an impatient smile'' <www.nytimes.com/2001/01/09/science/09elep.html>.

The old highway from Nairobi to Nakuru . . . Orenstein, Elephants, The Deciding Decade, 44.

For 26 years an Asian elephant named Sissy (see note *x* below) lived alone at the Frank Buck Zoo in Gainesville, Texas. The nearest elephants to her were at the Fort Worth Zoo, 85 miles south. An Asian elephant named Mona has lived at the El Paso Zoo since 1956. The nearest elephants to her would be in Albuquerque, New Mexico, 250 miles north, or at the Fort Worth Zoo, 500 miles to the east. Most zoos, recognizing the social nature of elephants, no longer hold single animals in such solitary confinement.

VII.

The 30 young elephants translocated from the Tuli Block area of Botswana became the center of an international furor. Both sides of the controversy can be viewed at <www.wildnetafrica.co.za/dailynews/1998>. Other sources used were "Tuli Elephant Debacle," at <www.sheldrickwild lifetrust.org> and the statements of Cynthia Moss, Joyce Poole, Harvey Croze, Keith Lindsay, and others at <www.hsus.org/wildlife/trade>. Of the 30 elephants, seven were effectively smuggled out of South Africa to Germany and Switzerland for sale to zoos there, four to the Dresden Zoo, and three to the Basel Zoo. Fourteen were released far from their origins in Marikele National Park, and five were sold to the Magaliesberg Elephant Sanctuary, which had actually bought the elephants prior to "training," and whose owner faces cruelty charges along with the original exporter of the

30 elephants. In extreme danger are four of the young calves sold to Sandhurst Safaris, a hunting lodge. Bought at R12 000 (\$1,000) each, the elephants sold to zoos fetched R1 million (\$83,000) each. In 2001 a new project translocated entire elephant families from the Tuli area of Botswana to Angola to replace elephant herds eradicated by decades of civil war.

... the giraffes that died after a month at sea ... <www.wildnetafrica.com/ wildlifenews/2000> (November 7, 2000).

VIII.

Elephants with "monstrous ballet skirts of pink tulle tied around their middles," twirled to music commissioned from Igor Stravinsky, their steps choreographed by George Balanchine at a Madison Square Garden performance of the Ringling Brothers, Barnum & Bailey Circus. Shana Alexander, *The Astonishing Elephant* (New York: Random House, 2000), xiv–xv.

IX.

The thundering elephant was heard one night in camp near Hwange National Park, Zimbabwe.

Χ.

The elephant described is Sissy, whose story can be read at <www.elephants.com/sissybio.htm> and in the *Seattle Times*, September 10, 2000, article by Neena Pellegrini, "As Free As Can Be." Sissy now lives at the Elephant Sanctuary in Hohenwald, Tennessee. The article in the *Seattle Times* is worth finding just for the picture of Jenny, one of the sanctuary's elephants, who lopes open-mouthed and ecstatic next to the tractor whose vibrations she adores.

XI.

Etosha National Park is only 311 miles north by paved road from Namibia's capital, Windhoek. The main roads within the park are passable year-round to two-wheel-drive vehicles.

XII.

... divined moisture. Sixty percent of an elephant's brain is devoted to smell. There are 20 million scent receptors in the nasal lining. Elephants can range over 1,000 square miles depending on the availability of water sources. *The Illustrated Encyclopedia of Elephants* (London: Salamander Books, 1997),85. Chapter 15 of *Silent Thunder* describes her research into "elephant wells," in the Sengwa area of Zimbabwe.

XIII.

... *a rumbling glacier of elephants surrounds us* ... personal experience, Hwange National Park, Zimbabwe.