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## A Troop, a Raft, a Bed

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A Troop, a Raft, a Bed

Senior Project Submitted to  
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by  
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“One way to open your eyes is to ask yourself, ‘What if I had never seen this before? What if I knew I would never see it again?’”

~ Rachel Carson

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## A Troop, a Raft, a Bed

Cloud's heels sink into the humus of dewy leaves under-foot, and he grunts to announce the pause in their traverse.<sup>1</sup> A concern works his face into a grimace. The four females lumber to a halt just behind their silverback, suddenly alert and sifting through the scents on the air. The mothers, Mama and Leaf-Finger, are hyperaware of their infants' arms around their shoulders. Sweet-Berry, soon to be a mother herself, shifts closer to Cloud, a hand on her swollen belly. Hop, the one-footed blackback, turns around mid-limp in the grove just ahead, responding to his silverback's vocalization with a puff. His mother, Viper, stands for a chest-beat,<sup>2</sup> her mind flashing images of mottled fur and shadow-dark-eyes.<sup>3</sup>

Cloud is straining to hear a sound behind the wind flirting with the trees. A low hum, like the sound that trails the swell of a heart-beat. It rises, then falls suddenly in volume, continuing to undulate through the dense woods. It dances with the chirrup of a nearby bird whose call he cannot match with a body. It battles with the buzz of thousands of rainbow-winged insects. It struggles through the perpetual rustle of leaves and moan of trunks. With an inhale of breath, scents of his forest flood his nose: carrion flower, stagnant water, morning dew, the warm aroma of his troop, tangy orchid, the must of slow-plant-death, and, farther off, the scent of a softened sweetness—almost oily, heavy. He opens his mouth slightly, to taste the thick air on his tongue, but the scent is masked by the sudden incoming of a honeyguide, beeswax fresh and clinging to its talons as it glides just by his cheek. She is busy evading what remains of an angry swarm of stingless bees. She dips low over the heads of a few of the female gorillas. Viper swats at the buzzing air with a great black hand. The honeyguide tips her wings to swing and disappear around the trunk of a white-fur-tree. This tree, though young in comparison with the trees that

populate the dense jungle, has woven its branches intimately with the lower branches of its parents and those of the surrounding trees. Already, it knows the stains of past floods that have changed the faces of the slopes within this sheltered mountain valley. It knows the local tree-deaths from a draught that is closing in, the talons of millions of lightly perching birds, the saliva of countless feeding insects, and the nervous hands of young Hop that currently tug at a vine loosely encircling its trunk, his eyes on his leader. His foot had been lost to silver jaws that stank of human hunger, and since, he has kept his gaze low to the soft ground. But now he glances up through the trees, anxiously eying the cluster of females before him. Sweet-Berry, Viper, Mama, and Leaf-Finger are bickering among themselves, passing a taunt back and forth. The low hum has them on edge, and their hunger drives them to irritation.

Cloud is deep in his mind, analysis of sounds and scents leading him to sit and peer at the leaves of the surrounding trees. It has occurred to him that the flowers of a soft-flower-sapling<sup>4</sup> he has come to recognize fondly have been gradually shifting from their usual bright purple to a muddy, stagnant brown, and their taste and substance have ebbed away. A larger soft-flower-tree some distance away that the troop frequents when it rains<sup>5</sup> has also begun to wither, and Cloud makes this connection with a jolt. Trees need rain; his knuckles don't quite sink into the ground as he had enjoyed when he was young. Trees die without rain; his favorite soft-flower-trees are turning death-brown. He sees in his mind the slow zigzag of death that trails the absence of water. A few of those he depends on have already fallen victim. The plant-life seems to be slowing, wilting, dying. His forest is browning.<sup>6</sup>

His heavy thoughts scatter at Sweet-Berry's impatient snort. She has pulled away from the argument and is at his side with a fistful of leaves. She tosses them at him, playful but stern, then turns to continue their trek. She is hungry.

The sun travels with them, swimming through the clouds, as the silverback scouts the vast growths for plants to quell their hunger. He leads his troop on, mindful that they are straying into the col that divides Cloud-land from Crocodile-land. Now the infants are beginning to hunger-whine from their perches on their lagging mothers' backs. Sweet-Berry quickly falls behind, her belly heavy and brushing the low-growth. She frequently pauses for a rest. Cloud, warned of his pace by Mama's soft-voice, slows with an eye on his pregnant favorite mate. Hop stays close by her side, and every time she squats to rest, he marches around to face her and peers into her eyes with an inquiring gaze, sometimes raising his arm to give her a friendly pat on the shoulder. Soon though, even Hop's hunger weighs down on him enough to dampen his concern for Sweet-Berry, and he falls in step behind his mother. Viper, walking eagerly just behind Cloud, regards her son with a grimace of concern, expressing a complaint to her silverback. Her worry is echoed in the voices of Mama and Leaf-Finger. Sweet-Berry pants. Cloud keeps a worried silence. He knocks aside branches and wide leaves with a turn of his head and a flick of his hand, finding only the smallest shoots of white-flower-green-stalks for his family to chew.

Finally Cloud stops, delighted: a small red-berry-bush grows before them, heavy with red-berries.<sup>7</sup> It is the most food they'd seen in days, and excitement-hoots are heard even by monkeys far into the canopy above their heads. Curly, Mama's wild-haired infant, squealing with cheer, propels himself toward the bush, smacking Viper on his way. She glares, giving the young gorilla a scold-cough, but Curly is too preoccupied with the rare treat to take notice. Cloud lifts his head to bellow a jubilant feeding song, and his companions raise their voices in responding grunts.<sup>8</sup> As he brings the first berries to his lips, Cloud's song dwindles into a contented feed-hum that he sustains through chewing. Through his quiet feed-hum, he hears the grunts of

silverback Crocodile and his family as they travel past their feeding-spot. He listens with minor interest as they amble on.

Sweet-Berry eats eagerly, her fingers plucking at the bush with a nimble grace. She relishes the flavor as it pricks her tongue. She feels a movement in the depths of her body, and her hand absently finds the bulge of her belly. She licks smear from her fingers, and berry-flesh from her lips. Beside her, Mama happy-coos quietly to herself, overcome with food-joy. All around her, her troop chases away their heavy hunger, and replaces it with light-foot-feeling.

After morning-feed, the family fans out to lounge in their contentment, some coupled for grooming. Sweet-Berry plods assiduously to Cloud, eager to groom him.<sup>9</sup> Once seated by his side, fingers busy, her gaze wanders, and she is entertained by the play routine of the family's youngest: Curly, and Leaf-Finger's younger infant, Buzzy—named for her humming habit. Leaf-Finger is supervising the two squealing infants in their mock-fight. Curly begins by grabbing a hanging vine and swinging with a shout directly into Leaf-Finger's chest, who promptly shoves him into a nearby bush. Buzzy, the opportunist, uses her mother's sprawled position as an opening to attack and reaches gleefully for her belly. This allows Leaf-Finger to wrap her arms around her and toss her smaller daughter as well, albeit more gently. The scuffle continues until Curly stands for a mighty chest-beat that instead steals his balance and knocks him off his feet. He tumbles into the brush, followed by Buzzy who is seeking another attack. Leaf-Finger monitors placidly, but with a stern eye. She finally notices Sweet-Berry's gaze and the two share a chuckle.<sup>10</sup>

A gentle-rain-mist begins to fall, released from the heavy air and further choking out the sun's rays. A peace arrives with it, settling in with the dampness of their hair. The cackle of the jungle converses with the patter of water on leaf. Sweet-Berry seeks shelter under a black-wood-



tree, but she watches with amusement as Hop opens his mouth, tongue poking through the moisture in the air. Her gaze shifts away from him as she notices Cloud's movement just behind him. She studies him as his eyes lead his head to inspect the area. He grunts his contentment, and begins to pluck the leaves from a wide-leaf-bush, his fingers swimming around the blossoms. Responding, Sweet-Berry takes her place close to his side. She presses the greenery down around her, folding stems and branches carefully with thought to her comfort. She has been practicing nest-building since her youth.<sup>11</sup> Content with her day-nest, she turns to Cloud, examining his face for any trace of the disturbed look from earlier. His brow is smooth-calm, and he moves with an easy slowness and maybe a mild sleep-hunger as he completes his day-nest, snuggled against the trunk of a wide tree. The rain creates a soft lull in background sound.

Mama approaches her then, greeting her with a kind caress, then placing the branches she has collected down where her day-nest will be. After mindful arrangement, the pair curl up in their twin nests, ears to the other's sigh. They exchange soft guttural sounds, chins often inclining, with voices of kinship and sister-pleasure, and fingers in the other's hair. Each finds a moment where her eyes drift to Buzzy and Curly, still engrossed in their noisy play-fight—one with mild concern sliding in her eyes, the other with a quiet pull. Soon, the younger members of the clan return to the safety of their mothers' shadows. Soon, the great family gathers, shifting into a tight circle, and all movement ceases. Soon, a light sleep touches them all.

Sweet-Berry wakes from her light-sleep with a lightning-bolt in her core. The rain has stopped, and a brave few of the sun's rays plunge through the dense leaf-cover. A bird screams. Sweet-Berry gives a warning-grunt to awaken her nearby companions, then focuses her attention on the shifting in her abdomen. She doesn't need to look to know Cloud is at her side, attentive and protective, standing over her with high-alert-sense. She doesn't need to see her family to

know they are rising around her, nudging each other. Hop takes watch on the opposite side of the group, with curiosity and respect-concern in his eyes. Viper peers through the trees while Mama weaves her fingers through Sweet-Berry's hair. Leaf-Finger holds both of the infants as they strain forward in her arms, eyes bright and noses twitching. Muscles contort and relax, striking Sweet-Berry's body with a lightening-ache. A sudden shock ripples through her, coupled, however, with the thrill of giving life. Mind-pictures of her two past infants, wet with red-life-water and cradled in her hands, gift her remembrance and sharp-joy holds them there.<sup>12</sup> She can feel a movement through her abdomen, and she knows with a mother's certainty how desperately her infant needs to get out. Her fingers find the space below her belly, and with the gentlest touch, she guides her infant into the world.

Sweet-Berry holds Aka—named for the sound she murmurs while asking to feed—with hands curved around her so delicately. She can feel her body emanating a blend of both devotion and a tenderness as wide and great as the sky. She kisses away the mucus and red-life-water from her daughter's forehead, and Aka, recovering from birth-shock, with senses alive to the dizzying world, flexes the fingers on one oversized hand and curls them around her mother's thumb. Cloud leans in to give his daughter a deep sniff, and around him the troop erupts into a chorus of hoots, cries, and chest-beats. The pop of knuckles hitting chests tells the jungle of their joy. The rally-chorus carries on while the family embraces each other, bright-eyed, grinning and nodding. Soon, Cloud urges the troop to move on for evening-feed, and contented hums continue into another search for whatever they can find to fill their bellies. Aka clings to Sweet-Berry's stomach, eyes wide and staring, while her mother fumbles around in the low-growth. The troop will dream of the red-berry-bush that night.

The sky is pink with exhaustion. Creeping in from the edges of the sunset are stars like a scattering of leaf rain-drops. Cloud yawns widely, and the troop takes this as a signal. Sweet-Berry finds a split between two branches of a black-wood-tree, and carries plucked twigs to build her tree-night-nest. Mama and Viper join her in neighboring trees. She is careful to tuck Aka in among the softest leaves, and she arcs her spine around her drowsy new-born's body. The pair are asleep in minutes.

Cloud wakes up early to a slinking mist encircling the trees. Crouched, he squints through it to count his troop-mates nestled in their tree-night-nests, with a special eye for his new-born daughter, then turns his attention to the information the forest is lending him. Through the usual commotion of nearby bird-chirrup, insect-drone, and the occasional monkey-howl, he notices the return of the peculiar buzzing sound. With head tilted, he focuses on far-sound, instead of near-sound. The low-growth rustles just a few steps away as a creature greater than the monkeys swinging overhead follows her path.

A female gorilla emerges, pushing her way through the dense mist. Cloud is startled out of his observations and turns to her. He can tell she has followed the pressed-leaf-broken-twig-trail Cloud's troop has left behind. Flower—the flash of brown on her forehead the size of a small bloom—is coming from Crocodile-troop. Flower is young, but not adolescent, and it puzzles him that she would find reason to leave her troop.<sup>13</sup>

There is a hitch in his greeting-grunt, and he takes a position between the wander-rogue-female and his clan. He takes a closer look at her, approaching her sideways with a cocked head. The first thing he notices is her lithe build. He is startled by how thin she is. She isn't eating well. Her lips are pursed in agitation, but behind that there is an energy in the way she holds herself, a stiff-tension, a desperation. Her hunger, perhaps brimming on starvation, hovers

around her like a fly-swarm. His troop is hungry too. He pauses in his sideways gait, turning away from her and scanning his mind-pictures. Food has been harder and harder to find, creating a new world for him to lead his family through. Less food, but with Flower, more feeding-mouths. He feels his brow wrinkle as his thoughts sit with his responsibility to his group. He protects his family. He leads them to their feeding-spots—and the images find their way to the front of his mind—the soft-flower-tree-log, the wilting rain-tree, the white-flower-green-stalk-patch. He sighs, shifting his weight as he digs his knuckles into the soil. It is firm beneath his hands. He pivots, and presses his fingers again into the soil with sudden interest. In his movement to the side, Flower finds space to approach the heart of the group.<sup>14</sup>

Sweet-Berry rouses from deep-sleep as Mama begins to climb down from her tree, and Flower, alert to her movements instantly, waits timidly. Mama eyes Flower with a quiet curiosity as she nears, Curly clinging to her back. She croons, scrutinizing her face and body, taking in the unease that has settled there. She turns now, her back to the new female, and Flower, with visible relief in her movements, grooms her. Curly becomes bored and scampers off while the other females shake the heavy deep-sleep from their heads. Sweet-Berry sees the wrinkled brows of Viper and Leaf-Finger reflect her own discomfort and bitter-curiosity towards Mama's kindness. Sweet-Berry listens to her unease about the new-comer. Images flash through her head: The wilting rain-tree, browning white-flower-green-stalks, Cloud, her new daughter. She watches Leaf-Finger give Flower a short look before lumbering toward Cloud. Her attention moves to Viper as she turns her back entirely, feigning interest in a patch of prickle-leaves. Sweet-Berry drifts unhurriedly away from Mama and Flower, settling alone to milk-feed Aka. The two are only given a few heart-beats' time to themselves. At Cloud's hoot-series, Sweet-Berry deep-sighs, leading Aka to her belly while she stands to regroup with her family and the other. They

leave the night-nests to seek the morning-sprouts. They wander hopefully while the sun wakes up the sky.

The mist has long since melted away in the heat of the sun when Cloud looks up from his meager white-flower-green-stalk. He has barely cut off his feed-hum for a silence that alerts the others<sup>15</sup> when Crocodile's sharp face and narrow eyes erupt out from behind the web of jungle leaves. Behind the silverback, footsteps inform Cloud of Crocodile's troop following. Cloud immediately recognizes the gauntness in Crocodile's figure. Crocodile stops in his saunter to watch the scatter of the nearby members of Cloud's family-group before focusing on one member in particular. He moves in a path like the coil of a vine to herd Flower away from Cloud's troop, but Cloud lets out a short challenge-cough. Crocodile hesitates where he is, and Flower hurriedly withdraws. Both silverbacks freeze-stand as their groups move back, panting in anticipation. A hair-arch stands straight along Crocodile's spine—a thin, distinct line of spikes like those that may surface from a rivers' depths. The two males stand with gazes averted, highly aware of each other though separated by foliage. Without warning, Crocodile pulls himself up into a chest-beat and then propels himself forward with flailing arms, stopping footsteps away from Cloud. A warning-cough escapes Cloud, but he catches a crazed-twitch in Crocodile's neck, in which he finds more than any vocalization could lend him. Then the younger silverback's fists are in his face,<sup>16</sup> and Cloud's knees bend for balance as his arms come up too. He uses his height on the other gorilla, leaning to force him to stumble. Instead, Crocodile ducks and thrusts himself into the gap below one of Cloud's raised arms, putting distance between them and pausing for a chest-beat. Cloud turns to a patch of nearby thistles in mock-interest, his eyes straining through the foliage to see Crocodile's next move.<sup>17</sup>

In the few heart-beats of tense lull, Cloud can smell the fear-scent spilling off of him. This is when he notices: the whirring, now much louder. It gnaws at his ears and a strange sweet-gas plays in his nose. He raises his head, and no leaf escapes his glare. Wildly, it dawns on him that he can't register the noise-direction. He crouches down, his body responding while his thoughts shrink away. All around him, once again, he spots leaves colored a suffocating brown, their lively-rustle replaced by empty-death-rattle. The world is withering somehow, quailing, like him, at some great force not seen. Overwhelm and flee-panic fill his head like pooling water and it freezes in every limb of his body.

Sweet-Berry's scream shatters him. His eyes lay out the scene before him, a hair-fear-red-tangle, and before he can see anything entirely, his feet bring him to a sprint. He refuses to duck under branches and twigs lash at his face. He springs onto Crocodile with a fury that sears through his body, replacing fear-ice with a wild blaze. Teeth meet shoulder, and Cloud tears at the other silverback in rage-heat. He lets Crocodile follow flee-panic into the woods, only pursuing him a short distance. As he and his troop destroy the low-growth, Crocodile leaves a fear-dung-trail in his wake. Cloud doesn't stop to check the scent.<sup>18</sup> He turns, suddenly heavy, as if carrying a deadweight.

Sweet-Berry's belly meets the soft earth as she feels her legs shrivel beneath her. She rubs the soft hair of her daughter's cheeks with two gripping hands, and rolls with Aka's cold-body onto her back, holding the life-remnants in the air. Her voice comes out in a thin murmur that trails into a long whine. A shadow falls over her then, and the hands of Cloud are in her head-hair; she watches him with a frightening hollowness as he spots the kill-wound. The place where Crocodile's teeth crushed Aka's skull. The family is silent around them. Her grip loosens on the shrunken body, and it finds its place among the new-sprouts and discarded leaves. After a

long moment, Sweet-Berry rises to loop her arms around the closest warm-body to her—  
Mama—and Curly climbs on her back to begin an amateur grooming. Sweet-Berry pushes her  
hands into leaf-soil under-foot, put in place.

But now the hum is filling Cloud's head again. They need to move. Crocodile's flee-path  
leads up-slope. Avoiding further confrontation, Cloud turns down-slope slowly, heavily. Sweet-  
Berry deep-moans as her family shifts, as if they are pulling at her. She listens to their footsteps  
until they are swallowed by the hum and bird-screeches. Her hum-fear stands taller and taller  
until it shadows her grief and pushes her to follow.

The buzz-hum grows louder as they move. Cloud feels its vibrations in his chest like the  
knocking of a woodpecker. The forest grows lighter until sun bursts through a few thin black-  
wood-trunks. Cloud, his body sick with fear-quivers, halts to squint into it.

Great machines shine like silver-teeth in the strong sunlight. A tree shakes violently and  
topples, as if suddenly feeling the weight of itself. Around it, humans bellow to each other,  
lifting their naked-hands. Behind them, the sun touches too much of the ground. A ground  
littered with brown-tree-death. The buzz is a human-tree-feed-hum. Cloud knows this is former  
Crocodile-land, land they lived and fed from, and at once knows their wild-manic-fear. As the  
humans stalk another broad tree, and the feed-hum starts again, Cloud understands that these  
humans and their bright, blinking silver will chase him and his family, too, hum-eating the forest  
his mind holds pictures of. The human-feed-humming, and the plant-leaf-browning, together a  
predator that will plague his world. With his eyes taut, he turns to the precarious shade, and his  
agitated family follows him into the forest, away from tree-death-stench. The human-feed-hum  
will live in the back of their ears, coupled with bird-song and insect-chatter, for the rest of their  
lives.

In the safety of the tree cover, Curly flies out a hand from his perch on Mama's back, sending a shock up the trunk of a young white-fur-tree. Among waving top-branches, great black-dipped wings erupt to push down on the heavy air. A beak long and mean as a striking snake leads two intelligent dark eyes and a straight white neck into the upper canopy. The stork navigates the web of wood and dense upper-growth to the blue beyond.

His beak leads him to a flock passing just above his head, the distinct bill clatter of his own species clear on the wind. With the upward spiral of warm air,<sup>19</sup> he glides with ease to the great phalanx. His heartbeat quickens from the labor of flight but also as he takes on a state of quiet apprehension. He is experiencing the uneasy urge onward that accompanies migratory travel. To ameliorate this disquiet, and for security and movement, he focuses outward and enters into the collective mindset of a flock.<sup>20</sup>

Guided by the same northward winds, they tilt their wings forward and follow their beaks' magnetic pulls. Up here, the wind sings too close to their ears for them to hear the life-song of the jungle, but they can see perfectly fine. Below, they scan the twists of trunks and bundles of leaves. White branches like veins. Trees tired and leaning, trees interrupted, trees heavy with death, trees bursting through their neighborly cover. But now the shreds of cloud are weaving together so they look like downy feather fluff. Perhaps the image conjures memories of the little white feathers that litter the nests of now fully grown chicks, nests their parents are returning to. Perhaps along with these images comes the distinct bill clatter of a rejoicing mate upon reunion.<sup>21</sup> But first and foremost in the front of the minds of those whose feathers have grown coarser with age, is the big water.<sup>22</sup> Comfortably inland by a day's travel, the lake draws all sorts of birds whose beaks lead them north at around this season. Or usually later in the season, if they remember correctly, but the warmth in the air is the same. The wind seems to



slow the more they remember. They aren't there yet. But as the clouds split, they see another, similar borderline of blue and green, pushed apart by a rachis of pale sand. Further out into the choppy blue, a few of them catch sight of an explosion of white water blown upward with a puff of air.

Filled with the relief of breathing, the whale lowers herself once more below the surface. Through the water, she can hear the hunger in the songs of her pod's males.<sup>23</sup> Beside her, she feels the brush of her calf sinking below the surface. Group-hunger still echoing through the chasm of water, she snorts towards the voices of her companions, and collectively they dive for the darker waters, shaping their path away from the land-breach.

Heavy moments pass until the pod communicates its next step. The idea is not owned by one, but the together-thought.<sup>24</sup> Through their blowholes erupt thousands of tiny bubbles, flying as a collection toward the water's glowing surface with a startling speed. Social sounds shift tones and the pod shoots upward together, their movement married, maws open wide.<sup>25</sup>

Content with their completed feeding ritual, a few clicks from individuals push the pod onward, and miles fall away like water from shrinking ice. They even sleep with currents tugging on their seaweed-like fins, an urge forward. Their memories tell them that the cold season has been shorter this cycle, that the heat of the sun is already growing heavier in the top-waters. But the uncomfortable warmth pushes them to follow the cold, so that's what they do. The season of passage has arrived, and they give no flipper slaps of dispute. The water shines with streams of sun and floating passersby, or fills itself with the underbelly of the dark air above—a time when sound is the sole tie among pod members. Soon the water is thick, and a comfortable cool hugs the pod. Their world is darker too; great mountains of ice block the usual trails of the sun. In the cold south waters, the season of great algae blooms splits up the deep blue with an energetic

green. The spur of the local community, plant life, clings to its melting former confinement as animal life awakens and spirals in its orbit.<sup>26</sup> Around the whales swim the fleeing, the followers, the hungry, the hiding. One day, their water world companions come from the sky.

The pod has approached the surface of the water, seeking a cold breath of air. These sudden newcomers dive into the water from the air with energy and purpose, so much so that the pod balks. Their speed and numbers are so great that they form a dark underwater wave themselves. The newcomers circle their flippers and twirl their feet like human boat spinners. They move like fish, but are built like birds. Black and white battle over their smooth and feathered pelts. Their stark eyes, white-rimmed and black, are oblong eclipses. Bubbles flee in their wakes. Before the whales can fully take them in, they are gone, heading for the dark that settles below them, and the scattering of fish. Up from either side, two larger dark shapes converged like crashing glaciers. Their paths cross and they move out of the shadow of ice, the speckles on their bodies fierce in the light. They turn quickly once the light discovers them, and dive down the tunnel of bubbles left by the penguins. As the whales continue their easy traverse, the first of the penguins begin to shoot to the surface.<sup>27</sup>

Po is one of them. Beak empty, he pauses his deep-water dive to turn his gaze upward and propel himself back to the surface. With tremendous exertion, and a leap he considers his mate, Ta, might find attractive, he lands back on the teetering ice chip. Beyond the ice, he can see the round pebbles of his home island, the gray of storm clouds. Squinting past that, he is convinced he can make out the distant shapes of penguins, perhaps the perfectly round figure of Ta. Their relationship is new—excitingly new, rousingly new. Both Po and his mate are a part of the youngest generation, and this is their first breeding season. But he pulls his eyes away from

the horizon and, before a fish could gasp, his beak is once again breaking the smooth of the water below.

Once he has entered the green underbelly of the ocean, his world is alive with movement. He revels in the comfort of his unbound underwater world—this is a good feeling and a good place, and he knows it. He watches his raftmates and companion hunters wiz by, then presses forward beside them. Diving into the depths. His body knows the movement of his raft, and his eyes are free to survey his options. Around him, hundreds of krill flick their tails in futile attempts to escape. He can see the skinny, pitiful feathers—or are they beaks?—of one, pricked away from its tiny face. The pink meat of its sectioned body. The night-dark of its eyes. He snaps at it, but it flees backwards, and the raft moves on.<sup>28</sup>

After a few more trips to the surface for air, success feels like the krill sliding down his throat. Po's pressing hunger wanes, his belly satisfied. His raft rests, floating on the surface of the water, Po just on the outside of their circle. A lull settles over them like snowfall.

The urgent croak and movement of his companions alerts him, but Po can't see the white-black whale before it hits him. Suddenly, Po is flying not through the water, but in the air. He flails wildly, convinced his flippers have become albatross wings somehow, but then his gut feels the pull of the ocean and the water smacks him like it has turned to ice. Stunned, he squirms on his back, floating briefly, before he feels the nose of the whale again on his shoulder. And again he is sent into the air—a chick-eater<sup>29</sup> squawks overhead (a startled sound he feels he relates to)—his raft, panicking, fleeing, is seen from an increasing distance (a fact he notices with a pounding in his chest)—the sea wails—the glaciers flip—and his feet hit the ever-moving water.<sup>30</sup>

Submerged completely, the heaviness of the water suffocates his ears. The water is clear ahead of him, save for a swarm of krill. Empty, uncontained, unlimited, and in it Po sees his forward-future-possibility-desperation-terror all in one. They crowd within him like a swarm of krill and he is swimming with the speed of water falling from the sky. He leaps out of the water, then back in, then out again with his beak open for air. The sea and air trade him back and forth, lending—it seems to him—his very body to speed. He doesn't think, pause, or even become aware of his surroundings until his leap from the water lands him belly-first on a sheet of ice. He slides a dramatic distance before stopping. Po feels his breath scrape his throat as he pants. His rookery is already far ahead, joining the masses of waiting mates. Exhaustion crashes over his head. He lays there, images of past whale or seal chases swimming through his head. He refuses to move, but soon his mind discovers an image of Ta, and he knows he must. The impossible task of lifting a single flipper soon transitions into the unthinkable task of moving his body to upright. Then, somehow—Po has no idea—he is standing. Teetering, but standing. And as soon as he is standing his mind is filled with Ta. Of seeing Ta, of hearing Ta, of smelling Ta, of touching Ta. Empty ice spreads before him, and the wind tosses up a dusting of snow. But land means safety, so his muscles relax.

Po knows there was a time when his rookery had to make treks the length of ten blue whales in a nose-to-tail queue to reach the colony from open water. Lucky for him, that time is not now.<sup>31</sup> It is still early enough in the breeding season to expect a long walk, however. So Po does what he feels any penguin would do: put one pink, scaly, black-taloned foot in front of the other. The wind knocks into him with such a force that he staggers, and he flails wildly in response. Finding his balance again, he leans into the rush of wind, allowing his fatigue to pull his head forward and fanning his flippers out behind him. He marches like this, beak down, eyes

on his toes, flippers straight back and tipping one up and one down with every stride. His mind sifts through brief flashes of the white-black whale, the white-black whales of his past, the speckled seals, the krill, the raft, the dark green sea, before setting these aside and searching for Ta. Po imagines he hears Ta's call again and again until it drowns out the wind. He whispers his response to himself.<sup>32</sup>

Suddenly, Po realizes the wind has stopped, held back by cliffs of snow and rock. He looks up to see a familiar colony of gray-brown shapes. Their skin, exposed, without a single feather, is ugly and wrinkled. Their faces are scrunched up and their awful beaks—if that's what they are—are oddly bent and covered in skin and fat. Ta's familiar call continues to echo through his mind as Po makes the trek through the community of aggressive—but luckily, only among themselves—skin-beak seals. The fact that these seals are not interested in eating him does not keep them from bad-mouthing him, however. The wind takes their snarls and howls and shares them, as if in jest, with the walls of ice around them.

Po comes out the other side of the colony of wide brown bodies without incident. Beyond them is his own colony. He takes a moment to rest before drawing in his breath and calling out in his proud voice. Neck craned for a response to his searching call, he marches into the chaos of his reuniting rookery. He investigates each call in the ridiculous audio bombardment with a concentration that tests his remaining energy, while simultaneously scanning the throng of blacks, whites, browns, pinks, reds, eyes, beaks, flippers, bellies, stripes, feet... Then Ta is standing before him, his pose familiar in the friendly, playful head-cock he likes to give his mate. With laughter filled to the brim with glee, the two greet each other. Relief is clear in Ta's voice, and Po laughs out his exhaustion, feeding success, and his leftover danger sense.

As the two finish their greeting song, Ta puts his beak to the ground to egg-roll a round rock into the space in front of him, then proceeds to lie belly-down on top of it, as if to warm it.<sup>33</sup> Po stares, confusion pouring out the rest of his laughter until the pair stands in silence. He thinks, slow, moving his head back and forth: Rock-nest-gray-storm-hide-hungry-cold. He blinks and starts again: Rock-belly-feed-water-krill-fish. And again: Rock-belly-feather-warm-rock-dead-life-egg-chick. He looks up at Ta, feeling a prick of curiosity. Female-male-life-egg-chick. Male-male-rock-dead. This thought sequence makes him heavy, bitter. He looks away from Ta and behind him spots a female attentively inspecting her egg, safe in her nest of stones.<sup>34</sup> His gaze returns to Ta, then moves down the round stone his body has shifted to reveal again. Ta hops up and Po watches his gaze wander to a male nearby, settled contently on his nest built high with pebbles. Po knows there was an egg or two beneath his warm layers of belly feathers. With this image, he feels something he's never felt. A cold pull, a strong reach. The light lapping of a strange sort of anger. Discomfort, and a wanting to be away. He looks up, and he and Ta pivot in circles. Po's eyes find every precious white shell in their vicinity. He has not bothered to learn names for his neighboring nesters, and in fact, harbors a small amount of suspicion for any penguin who is not his Ta, at least when they aren't hunting in the raft.

Before long, Ta shakes himself, as if trying to wake up. The females of egg-laying pairs are drifting from the colony nests, and the males are beginning to take their places.<sup>35</sup> Ta stands before Po for a few heartbeats longer as female penguins weave around them. Po feels the intensity of Ta's eyes, but can't feel what is behind it. Then Ta is leaving too, and Po watches his back: the cute waggle of his tail feathers, his sleek flippers flung out behind and away from his body, his rapid and decisive steps. Ta is following his hunger on the long trek to the sea, and Po is left to swing his head back around to the remaining penguin parents.

He can see much further, considering that half the colony is gone and the remaining males are belly-down, snuggled into their oh-so-magnificent nests and their oh-so-perfect eggs. Curiosity overtakes him, and he begins to wander. The first male he passes looks up sharply as Po waddles closer. Po snaps his gaze to the horizon, aware that if he knocks a single pebble out of place, he is sure to get a few beak jabs. He gets a similar reaction from a number of the nearby males as he continues to loiter: chatters of complaint, aggressive squawks, and a few fierce stares. He pauses by a particularly high-walled nest, simply admiring, and the male occupying said nest has the nerve to snap at him. Po cackles defensively but stumbles backward—into the stacked pebbles of a second nest. The second penguin crows at him, then stands to lash out at Po's neck. Po flinches and lets out a string of retorts—which perhaps is too much. The male pushes himself from his perch and flings himself at Po, continuing to crow nastily. Now Po is mad. He ducks and the male slips as he dives for another attack. Po nips at any feathers he can reach, feeling for the warmth of skin beneath. He gets in a few bites before the other penguin regains balance enough to jab at him. They swap attacks for a few heartbeats until the other male lands a particularly hard bite on Po's chest. A bark shudders through him and he backs away from his opponent. The pain chases the rest of his anger away. He belly-slides to safety beyond a large boulder.<sup>36</sup>

Outside the reaches of the colony nests now, he wanders a few paces away to look out over the stretch of glacier where the raft has gone with Ta, already peeved and battling a rising turmoil. Then he sees it. Lying there in the snow, a few hops above his head, the biggest egg he's ever seen. He lets out a squawk and runs for it. The egg is almost the size of Ta's beautiful belly. And the biggest, strongest chick must be sleeping inside. His first instinct tells him that eggs get too cold without the belly feathers of parents to warm them, so with a wave of urgency he flings

himself forward. He ventures up the slope and he turns to find a view of the entire colony. Around him rise the three white walls of cliffs cloaked in snow. Early rivulets of meltwater tumble down their slopes, and one passes just by his feet. Huddled in the center of these three hills is where his colony lives, a perpetually moving black blob, and further out, the skin-beak seals, and beyond that, stretches of flat ice until the sea hits. He feels like a white-black whale, a beak whale, a speckled seal. He feels like the safest, the wisest, the strongest. No fears, and above the rest. He turns, realizing he's been distracted, and finds his egg—so white he can barely tell the difference between it and the snow. He settles down on his stomach to warm it—and belly-slides directly down the slope he's just climbed. Alarm screams in his head, and he hops up, hoping his beautiful egg isn't damaged, the life inside unharmed. But gazing down at the mess of snow below his feet, he realizes he can't find any sign of the egg at all. He digs his beak into the fluff, searching for anything at all sturdy, even the ragged edge of a broken shell. But he finds nothing but a scattering of snow among the rocks. There is no egg. There had never been an egg.<sup>37</sup>

Crestfallen and wracked with heaviness, he hangs his head as he wanders back to the colony. He passes males in their nests with less interest this time, and in turn no one is drawn to look too hard at him. He meanders, drifting like an ice floe. He has no place to go, no spot that is his. He floats on with his head submerged in his heavy feeling. Suddenly, wingbeats from just above his head pull him back into his body. From the sky dives an aggressive chick-eater, aiming straight for an exposed egg. Upon landing, the bird tears into it with a flash of its dark curved bill, and red explodes from within the shell. But something else pokes at Po's instincts. He stands and stares, his thoughts tangled. Egg-death-parent-nest-abandon. No egg, no parent, empty nest. Empty nest, space for Po and Ta, egg space, safe. He lets out a series of wild caws and charges



for the nest. The chick-eater, having finished her meal, launches herself once again into the air. Po scrambles into the nest in her place and sends a heated glare at the surrounding nest-warmers, some of them already eyeing what are now *his* pebbles. His gaze slips past them and out into the sky. It is awash with orange and blue, flecked with the silhouettes of flying birds. The sun won't set this season. The wind creeps in from the sea and rings in Po's ears. Stained clouds languidly plod across the vista. Way out past the stretch of ice, he sees a whale strain its tail above the surface of the open sea. Water is thrown into the sky as it once again submerges. All around him, the colony is covered in the orange of the dipping sun as they nudge their eggs or settle into their nests. He prods the empty eggshells out with his beak, then sets to tending his collection of stones until his eyelids droop.

He stays in his nest all through the bright night, curled around a few pebbles he has labeled more precious than the others, feet sticking up to cool them.<sup>38</sup> Po wakes to rediscover his very own nest. He inspects the pebbles, and is relieved to find not a single one out of place. For good measure, he glares at the nearest nest-warmer. He is plump, patient, has perfect pebbles, and an attractive pelt. Po relaxes his glare and bends his neck, hoping for a peek at his eggs, but they are hidden. Just beside this male, another male stretches his flippers. He has two beautifully large eggs. Nearby, another lets out a jolly call, and Po is instantly drawn to his voice. There are so many eggs and chick-make options for Po, and he is suddenly overwhelmed. His head swims, and he scans the ice anxiously for Ta.

Ta does return, though not as soon as Po had initially wanted. Ta had left the female raft as soon as he felt sufficiently fed, anxious to return to his mate and their mischievous aspirations. Due to the shortening of the ice stretch, his trip back is shorter than seasons past. He is thrilled to discover their new nest, and lets out a few happy quacks upon discovery. Po, exhausted by his

collection of misadventures, is glad to let Ta take the lead. He watches his mate scan their immediate companions and their inventories. One male looks particularly sleek and well-fed, and has sharp, observant eyes (Ta turns to Po to make sure he saw). Another boasts patience in his movements and intelligence in his gaze (Ta points this one out too with a quiet buzz). One has collected the largest pebbles to line his great nest (Po, heartened now, nudges Ta in his direction). Another shifts to reveal two giant eggs. Po feels a jolt in his belly, his energy fully regained. Ta sends a sharp look at Po, and Po cocks his head playfully at Ta. They have their target.

Moving like hunters, they approach the male with heads scooped forward, beaks open, and flippers out like whale fins. The penguin readjusts his position over his huge pair of eggs and lets out a fierce series of barks before diving for Ta. Po takes his chance to slink into the nest. Instinctively, he curves his neck over one egg and pulls it towards himself and the nest's edge.<sup>39</sup> His careful endeavor is soon interrupted by Ta's distinct scream, and Po immediately abandons the nest to return to his mate's side. Ta struggles free from the male's grip and the pair retreats sheepishly back to their nest.

They sit under the cloud of their defeat for a moment, fretting silently. Ta begins cleaning the blood stain from Po's chest in tender, methodic motions, his beak's light pressure a familiar comfort. He watches Ta's beak leave his chest as his mate pushes his belly into the snow, tail up. Po steps toward him with a conscious grace, and the couple begins to mate. Po balances himself with a familiar ease on Ta's back, his feet slipping only slightly. He flings his flippers out for balance. He feels a tide pull in his belly, and he tips his head back in quiet zeal, a murmur escaping him. Bliss and excitement ripple up through him like pooling water. Ta arcs his neck

back to touch his beak to Po's, and Po revels in the familiarity of his mate's caress. Ta quivers beneath him.

When they separate, Po notices the eyes and attention of a number of other males. Ta notices too, and he stands up and cackles to Po. There is a joyful triumph in his voice that Po doesn't understand until he watches his mate approach the male with the large eggs. Ta takes careful, light steps towards the male, and he—and Po—watch with rapt attention. Ta turns his back to the male then, belly-down, and shows his tail playfully. The male, forgetting his former aggression, stands without hesitation and tips his beak up. Ta waddles a few steps away from the male's nest before the male positions himself on Ta's back.<sup>40</sup> Po's eyes are on his feet for this part. He battles a defensiveness, a territoriality. A similar feeling to the quiet, lapping almost-anger from before. But he launches himself out of his nest and scampers into the male's abandoned one. He hovers anxiously over the eggs, a pounding in his chest, then scoops his beak under the smooth, speckled white of one—the one he thinks is bigger. He begins to shuffle backwards, his feet familiar with the short distance to the space he had claimed for this egg. His tail warns him of an upward slope, and pebbles tumble as Po drags the precious object into his space. Immediately, he slumps over, covering the egg with his warm down, hiding it. He enjoys the warmth beneath him and the warmth of his successful heist.

But even with his task completed, he feels his body continue to battle stress. His mind clings to the image of Ta, belly-down, and the other male's feet finding his back. Po rearranges the pebbles in front of his beak, then curves his neck to nibble overattentively at the egg beneath his belly. The joy expanding inside him tramples his unease for a few moments. Listening hard through the common dialogue on the wind that coils through the colony, he can hear the clatter of stones as the male returns to his nest. Lightness grows from his unease, and he is able to lift

his gaze once again, in time to see Ta shuffling his way. Freed. His Ta is flapping his flippers like he expects the wind to pluck him from the ground. He nudges Po so roughly that Po lets out a choked squeal. But he curls his body anyway to show Ta their new growing life.

In the flood of days after, both fathers have to tear themselves away from the nest to feed. This is more difficult for Po than Ta. When Ta is away, Po fights down both the tugging of his hunger and the urge to stare at his egg—whose every speckle has already been claimed by his memory. Distraction comes in the form of colony movement. He watches with a kind of powerful curiosity as other parents easily swap their nesting duties after brief greetings. It takes Ta longer to reach the nest these days; Po can't imagine why, but he still doesn't feel the need to respond to his mate's searching calls. Besides, he is miffed by Ta's recent tendency to peck him into giving up the nest. If not for the melting ice sheets and the shortened distance to the open water, Po might refuse to move. Despite the sting of Ta's beak.

When dark, fuzzy shadows begin appearing in the neighboring nests, and the air is filled with cheeps of hunger and smell of a distinct tang, Ta and Po begin to gift their egg with a few more heartbeats of attention than usual. Po finds it nearly impossible to leave now, and the occasional nip from Ta is inevitable. But he is there to feel the first quivers of life from inside the obscuring shell. He pulls back from the egg as if it itself had nipped him. It seems to take days between the first sighting of a beak and the emergence of a tiny wet head. Po staggers back to gawk, and a light feeling fills him, as if he has just leapt from an iceberg and his body is suspended in the air before it hits the water. His daughter emerges from the ragged edges of her former enclosure, and opens her eyes to him. She is obviously the most stunning chick in the whole colony. Her down is a beautiful black, dark like the season the sun disappears, or like the depths of the sea. Her eyes gleam already with a brightness, a sharp observance that all the world

falls prey to. Her call is stern and demanding. He goggles, rapt, fascinated, overwhelmingly awed, but also tense, chillingly startled. His feathers are dampened with a feeling of wonder. Like the sun has risen for the first time of the season, and he has forgotten how powerful it is. But her high-pitched command for food pulls him back to the ground. Complying, he opens his beak to her and her squeals met silence as she eats for the first time.

Ta appears, and Kaz is swallowed in the feathers of her parents, their beaks and the chuckles that come from them carrying her like water. Their own little raft. Ta sounds his greeting, and Po answers, their exultation is carried on the wind. In his mate's voice, Po hears that he could go. And his easy trust in his beloved means he can. He is moving his weight from foot to foot, and soon he is sliding into the water. It is a short trip, as the ice that had held them apart from their food source has all but disappeared.

In the water, Po dives deep. He swims out further, just ahead of his raft, fueled by a wild and buoyant felicity. He notices quickly: In the water nearby, there is a flash of jagged silver, a large fish he's never seen before. It's a solid shape, built like human machinery. Its edges are sharp and mean, and it moves like it's never met a white-black whale, or a beak whale.

The shark never has. Tasting waters farther south than he's ever known, and relishing new cold ocean, new smells. He listens and he follows smells. New feeding—fish smell is new, seal smell is new, bird smell is very new and he is wary. He is wary and careful; new water makes him careful, and he moves slow. Around him are heavy waters, but his body is light and feels light and is better. Warming waters are not nice for him, his body feels heavy, he is uncomfortable. North is uncomfortable so south is a good change.<sup>41</sup> Warming waters move him to migrate south, towards small bits of cold land that float above his head. In cold water, he can

relax. In cold water, he will feed. Now. New skin and body warmth are nearby. He wants to see them. He feels the lead of curiosity and he follows smells.

He smells: wide flesh, blubbered, fatty, muscles, whisker, land-ish. He hears: fast swoosh of water moving closer, one body, spiraling flippers, long body and teeth, unaware, moving closer and closer. He sees: dappled skin, speckles—his teeth are out to bite, eyes back, and skin explodes into blood.<sup>42</sup> Squirm of skin, explosion of sound—he battles, tearing and feeding blindly. No more movement, and meat floats, drifting, other fish swarm. He eats peacefully among, and he is satisfied. He will not feed more. He drifts, senses open: more sharks, more new creatures? He does not know. He is afraid of new sharks to take new food from him. He scans water; fins at sides move down, spine arches.<sup>43</sup> He wants no sharks near. This water is for him. He displays to other passersby, no sharks, they all move on, slow movements and eyes on him. Water is darker and then light, always light.

He is tired: now water is too cold. He does not like too much brightness. He wants north, his body finds north, swimming, speed, travel, water ripples by, moving always. He swims north to where he finds darkness, dark smooth of water, then shreds of light in water, then dark, then light. Up, up, movement of warmth coming in, he feels it, soon. Now water is spinning with life. Up, up, movement with more warmth coming in and more life filling up around him. Skimming fish along skin. He feeds, finally, tuna, speeding ahead and reach and bite and tug.

Down below, lone creature spirals out, arms seeking, venturing for food, seeking limits, feeling, smelling with arms. He sees, watches, observes, with curiosity, but empty hunger. He will not feed soon, but he has arrived where he likes. He drops his side fins, arches spine. Stays.

She smells him. *Shark*. Above water shifts. Above rough-skin white and silver rimming freckles wrinkle-dappled. Sharp fins cut out. Always always moving. She cuddles in. Hides in.

Frantic. Fear spreads across skin. Pounding. Skin shifts and moves up and out while body shrinks back. Dark skin shades in.<sup>44</sup> Cowering.

Shadow passes now. Fear's tide pulls out. Hunger pulls her sharply away. Scales swim by sleek shines but no taste for her. Move with flow of water, arms out behind. Finding shelter tower—to hide. Shadow touches her skin with shades and textures; she tucks her body in among rising sea floor and swaying stagnant life towers and is unseen. In cuddled close. Safe. One in plantlife. Free to observe.

Sand spirals and leaf veils. Tail flutters by a passing body—four-finned dapple-patterned skin—disturbs the water. Body is non-threatening, body does not see her in her camouflage. Water-end is near floor here and the great light pours from above water-end in straight lines then disappears and shadows are darker. Her skin adjusts. Hunger takes over search. Floor tastes like turtle, large whale, big-bodied creatures... Floor tastes like floating bug krill crab lobster small-fish *eel*. Stop. *Eel* is old. Eel was passing. Eel shelter distant. Go. Floor knows lobster, *lobster* is old. Floor knew crab, *crab* is new, she feels *crab*. She follows *crab*.

She is seeing, scanning, movement on floor. Hunger pulls. Sand shuffled wave. Flick of orange. She is up in her dark skin like shadow,<sup>45</sup> down with clouds of sand swimming. Arms know<sup>46</sup> slick shell, pinch, suckers twitching, pulling. Beak opens, bites, swallows.<sup>47</sup> She drifts away, arms curled, skin light freckled ruffled.<sup>48</sup>

Flow. Wander. Floor is hardening prickling, floor life builds up. She observes. Skin observes; she is white light flecked. The floor rises, arms touch. Floor life, light, white Stop. She is cold: Life has left this place. Stop brown. Stop green. Stop blue purple black red pink orange yellow—go white. White. All white. Hard white drooped white dead white. Dead. Floor of skeleton floor of echoes. She hears stop. Stop is silent. Go has left. Round body lingering gone.

Small-fish flitting gone. Insect-fish twitching gone. Shark hovering gone. Dolphin skimming gone. Starfish curling gone. Striped fish flitting gone. Ray slow float gone. Slow life touching waving gone. Color gone. Life growing gone. Life gone.<sup>49</sup>

She hovers with jets of water moving in and out.<sup>50</sup> She skims. Hunger shrunk under stress shadow. Skin cloud-shadows, arms sifting. Slow action. Taste feel see, think. Water-warm too much for floor reef. Floor reef cannot flee. Floor reef must cling to same floor, floor reef had no arms. Floor reef white, dead. Safe zone gone. Go.

She moves with jets quickly. Away. No shark no skeleton no loud no light. Water grows calm and dark. Plastic comes to sit. Pallid weeds drift languidly. All plant. Plantlife twists from floor. Coils grab at her curiosity in pull. Forest.<sup>51</sup>

Above are bubbles up from depths and dark up towards distant glint of sun. She searches among weeds with arms, tastes. *Eel* here too and old. Now but eggs?

## Egg<sup>52</sup>

Dark. Drift.

Up drift.

Light surrounds.

Warm... Warm... Warm, warm. Topwater ripples. Quiet water. Easy wave tug. Light from up. Sweet feel.

Safe.

Membrane tears, open, and rush of scent with freedom. Release. *Salt*—good. *Eel*—good. *Other maws*—bad.



## Leptocephalus<sup>53</sup>

Body drift.

Pooling water sea. Floating top plant sea. Below dense plant sea. Lulling sea. Quiet sea.

Dark sea. Collecting sea. Here, birth. Here, death.

Fear floods body. Smells surround body, all new. Everything new. Body hides in floating weeds, burrowing.<sup>54</sup> Weeds touch body, hold body.

Body safe. Body sleep.

Water tugs weeds. Body cling to weeds, safe weeds, hidden weeds.

Body float, wait. Feed on passing particles.<sup>55</sup>

Water pulls, and out in wild ocean stream.<sup>56</sup> Behind, calm sea laps in peace. Ahead, waters rush and hurry with *maws* wide—bad.

Body drift.

Body flip and wriggle—stream strong, strong. Body hunger.

*Salt. Other eels. Plastic. Maws—bird, fish, whale. Blood. Dead. Decay...*

*Fish maw.* Fish maw approaches. Small, fast. Teeth.

Water rushes. Body push, straining, evading.

Shadow passes. *Fish maw*—faded now. Fear moves from body.

Body drift.

Body sleep.

Light floats on top water. Light dims and is gone. Light reappears. Slow, slow. Water warm and cool. Water bright and dark.

Body hunger. Need feeding, lots of feeding. Particles in water. Body shift.

Feeding stop.

Mind shift. Fearing. Crashing. Widening.

Body shift. Tingling. Lengthening. Narrowing. Leaf body to long body.<sup>57</sup> Drift has ended.

## Glass Eel

And body swims.

Water space narrows. Water is light. Topwater lowers, close to seafloor.

*Salt* weak. *Plant* strong. *Soft soil*. *Plant decay*. And new...

New smell—smooth, oily, sharp. Bad. Danger trigger. Pull is for away, escape.

*Oil* stronger and stronger. Bad, bad. Confusion, tearing, fear. Pull to *no-salt*. Push of *oil*.

Body swims to no salt, to oil. Forward.

Body chokes. Body shivers. Body follows pull of freshwater up, up.<sup>58</sup> To North.

Body swims. Body sleeps.

Land wall, water falls back. Green rises out of land. Green life. Green metal. Stray light find green. Up thin green tower into dark sky and clouds. Green meets dark high above water.

Hunger grows.

Particles in water. Body finds drifting skins, scales. Discarded. Nares<sup>59</sup> catch loose *scents*, ripples of old contact. Thin tendrils, thick objects, different tones, curved corners, particles, fine, dense, crumbling, dangling, drifting, sinking, floating, hovering masses.

*Oily. Sweet.* Plastic. Plastic in sea, too. Hunger tells maw to eat.

Floater are hard and bitter. Maw grinds, body twists. Ache in maw, feeding no good here. Body leaves.

Hunger. Weeds, fish, insects.<sup>60</sup> Surface of leaf smooth, maw bites. Maw latches, twist, twist, twist, twist.<sup>61</sup>

North river. Green river. Two-flow river. Shifting river. Up and down, up and down river.<sup>62</sup> *Salt* mix river. *Oil* river. Home river.

LOUD! Body startles, frozen. Body in mud, soil, sand, plant, root, rock. Tunnel and wait.

Quiet. Quiet. Quiet. Then LOUD. Then quiet. Over and over. Body creeps out, nares smell nothing.

Lights in water above.

Action, movement, sound. Everything close, close.

Loud, echoing water. Calls from land creatures. Growls, moans. Chaos above. Body finds comfort. In leaves in humus layer. In floor is soft and hidden.

Bright, flashing water. Sky dark, night. Stray lights above comes by quickly and too close. Disappear and reappear.

Water creatures are scared, hide. Bass are frightened, swim quickly.

Above water, overhead, dark shadow strip across sky. Loud noise and light dance through beams of shadow. Vines stretched taught.

North. Body craves up, up. Farther up, push up.

Body swims.

*Salt* leaves. Skin relaxes hold on water. Skin wants water out.

Water is sandy. Bits spiral and touch body. Smells touch body. *Insect*. Maw catches all.

Water quiets.

Stray, floating lights flash, but they are distant.

Night quiet settles in. Comfort settles in. Body settles in.

Body swims.

Algae swirls. Rocks cough up dust.

Light touches water, and body sleeps.

Dark brings body out and movement overtakes body.

Body swims.

But. Body stops. Body can't swim. Body isn't moving. Water moves around body, water flows over and under and through body but body cannot move. Body feels pressure on skin, crisscross pressure presses into skin. Crisscross pressure holds body away from water flow. Crisscross pressure holds body away from North. Water scrapes skin, water leaves body. Pain swells inside body. Pain wants movement with water, with natural, with body-feeling. Body cannot move, body stays, fear creeps into body and spins through it.

Smells touch nares. *Other eels*. *Oil*. *Stagnant leaf*. *Plastic*. And others, smaller. Nares do not know them. *Sharp*. *Soft*. *Sweet*. *Strong*. Fear jumps at small, unknown smells.

Body is surrounded by other bodies. Eel bodies. Nares know. Eyes can see bodies through netting. Young, small, scared.

Together, they.<sup>63</sup> They stay, wrapped in each other. All through the night. Wrapped together in long thin clear bodies. Heads on netting, heads on skin. Stunned still. A motionless bed.

Tide lowers, water falls.

Then light is in their eyes. Too light. They move to hide.

Sounds, murmurs. Above water. High danger sense. The netting folds, they creep into it. The netting moves up, they explode in alarm!

Water is gone, air shocks, they wriggle, clinging to wet, fear spiking, then *creature*. *Human*. Touch through netting. *Human* among them. Dry oil skin STINGS, clip of hard bone-rock-tooth STINGS. Fear HOWLS. Body hides in netting, so still.

Dry oil skin GRIPS. PINCHES. Body SWINGS in air. Squeals, shrill, loud, in air, too loud. Humans. Body away from net, away from wet. Loud! Silver, hard, bad smells, uncomfortable. Now all bodies together, tangled, wriggling, flailing, searching, stuck without netting still stuck. Together, they.

Water. Noises quiet, muted. Body in water, safe maybe, no more dry oil skin, no more air. Smell *river*. Smell *harsh*. Smell *plastic*. White riverfloor, white walls go up out of water. Fear tells bodies to escape. They flee to floor-meets-wall. No gap, no escape. Must hide hide hide hide. Stillness. Fear bristles back and forth through them.

Trap MOVES. Water sloshes against walls of trap—they slosh against walls of trap. They are dizzy, dizzy. Sky and floor switch and turn.

Then waterfall out and sandy riverfloor. Rock and soil and sand and plant and humus. They flee, frantic.

Body hides, beneath leaf. Light is dim then gone. Night is around leaf. Body quivers.

Body hides.

## Elver

Body lifts and swims.

Night, day, night, day, night.

Wide, deep river. Water misty.

Water is slowing.

Quiet end to current. No more pull for body. Body meets wood. Body turns back, wood behind. Dark shadow above and water ripples.

Wood is long dead, no more quiet hum. But dead wood shifts like living. Water push and weight, but rises, and wood parts ahead. North. Body follows north, fear moving inside, squirming like worms. Wood pulls together behind, wood parts ahead. And body is free.

North pull is strong. Nares smell less other eel now, more bigger fish. Fear moves over body like shadow hum of passing motor. Pressing slowly on and then off completely.

Moon crawls on glowing plants, rippling gray light from above. Sun blinds, consumes, and reveals.

River is narrow, now. Pathways branch off. Hiding in cattails stems. Body folds body between stems. Off main water, onto smaller water. Follow. North.

Stream. Rocky, shallow, shadows swim back and forth.

Water presses on body. Waterfall from up. Body strains, body climbs. Body is above. Body aches. Body swims forward.

Water is rocky and path is narrow. Body rests among boulders. Body is wound around rocks, tunneling, like root.

Night comes with ripples across topwater. New water from sky distorts images from above. New water brings rough texture to sky.

Water from sky touches everything. Safety settles in body. Push enters body, and body moves. Find root.

From root, body feels earth.<sup>64</sup> Earth oozes with mud; body slides forward over sand and stone, and shallow pools of water.

Muscles inch body forward: twitch, twitch. Body moves over earth and touches of soft fronds move across skin.

Body swims over earth.

Water over leaves, birds swoop overhead. Uncomfortable. Fear spikes in body center. Air holds danger.

New loud sounds. Muting water no longer protects body.

Night bird. TUKKE KAKAKA ZEEEE KAKAKAKAKA. KAKA ZEEE KAKAKA.  
KAKAKA ZEE ZEEEEEEEE. OOOOOOOOHUHUHUHUUHU. OOOOOHUUHUUHU.

Trees. Shhhhhhhhh. Shhh, shhhhh, shhh. Shhhhhhhhhhhhhhhhh.

Tap, tap, tap. Water falls in drops from above.

Water left behind is singing over lip of rocks, then fades into faint. Then nothing.

Murmur of wet ground leaves, under body.

LAND CREATURE nearby. Fear pushes body. Body hides in wet leaves. Skin sucks at air.

Creature is huge, furry, dark, flashy-eyed, striped, clawed, pointy-snouted... Paws move through leaves. Creature sniffs and moves away.

Body remembers touch of water, longing courses along skin. Air pricks, water smooths. Air holds danger, water holds.

Body follows the wetness of the earth. Quick relief in puddles, but no safety. Body moves on.

Soon, ground is soggy, and land slopes down. Exhaustion fills body. Old fear and weariness mingle.

Finally: water touches maw. Body dips into water, warm, stagnant. Body finds the lake.

## Yellow Eel<sup>65</sup>

Vast lake. Round lake. Deep lake. Cloud-high earth lake. Lake with one eel.

Pointed towers of land reach for sky. Water pools into lake. Sound echoes through air above, rippling water, until fading.

Body feels comfort of leaf clutter in deep water. Sky touches lakeplants with gray tinge. Lakeplants wake. Day comes.

Body finds mud. Old soil, sand, crumbles. Lakeplant shadows. Body tunnels and rests.

Night dark brings body out for finding. Lakefloor spread out ahead, lakeplants sway. Fish scatter. Body feeds.



From lakefloor rise rocks, shadow-makers. Lakeplants hum and drink and lift leaves.  
Algae overflows. No human sounds.

Dark leaves shelter body. Safety finds body, body is calm.

Body stays in lake.

Cold season comes and body clings to warmth, to energy, to lakefloor. Body slows,  
movement and hunger ease. Water is heavy, thick. Body sleeps, eases, feeds, and sleeps.

Then cold flutters and thaws. Water is light, active, rushing and reaching.

Body learns lake limits. Edges where water ends and land above dips down. Edges where  
water is thin and amphibians swim. Edges where sand flutters from floor. Edges where moon  
shows everything with gray.

Body learns lake depths. Depths where big fish creep though water. Depths where ledges  
of rock cast shadows and hiding is easy. Depths where water lies heavy, unmoving, and body  
sleeps long.

Lake feels more seasons change. Big eel migrating season is here; no eels pass in lake.  
Cold season; slow, sleep. Warm season; plantlife pushes up and active lake. And again.

Body stays through.

Body knows lake.

Body knows next. New growth is coming to body. Body is alone. No eels here. Lake is  
only for one eel body. Body knows and body feels shifts.<sup>66</sup>

Hunger creeps up. Hunger spies. Hunger comes within, urging.

Hunger wants movement—movement finds food. Maw snaps at movement. Teeth tear flesh. Nares smell for prey. *Weeds, fish, mollusks, crayfish, insects, frogs, minnows, birds, rodents, eels.*<sup>67</sup> Body hunts.

Hunger pushes, always. Body feeds, always.<sup>68</sup>

In lake, slow, then fast, Pull finds body.

Body feels Pull first in day. Body rests, then Pull arrives. Body stops resting. Sleep flees.

Pull wants out. Pull wants rain for ESCAPE from lake. Pull wants ESCAPE SOUTH.<sup>69</sup>

Rain brings body escape. Body wriggles onto land; water slides off body.

Lake stays behind. Body leaves.

## Silver Eel<sup>70</sup>

Body on earth, soil, leaves, mud, pebbles, bedrock, worms. Body is slow.

Danger sense goes through body, once, again. Wind pushes rain into eyes. Wind flicks and rubs skin.

Now, water. Rushing water. Speeding water. Skin does not remember energetic water. Body feels lighter, movement is quicker.

Eyes are new, large. Eyes see.

Day is resting beneath shadow of rock, night is movement always.

Water riffle tosses body. Waterfall transfers body down, down. Belly flips, and body is among rocks and green. Water pools at base of waterfall, body rests, tunnels in leaf humus.

Moon finds path through streamplants.

Water rushes body into river south. River south grows wider.

Space. More to see, more to eat. Body rushes. Body hunts. Maw meets blood.

Body moves through shifting dead wood, through shifting water, pulling body into tumble down. Current is strong now and leads on.

Day comes hunting. Body moves through day, Pull eating sleep. Sleep no longer comes and stays. Night is day's retreat. Body moves on.

Eels erupt from riverweeds. Eels erupt from rocks. Dark, round, big-eyed eels, like her. Breathing in salt with same pull in bodies.

Loud sounds from above. Growls and lights: human action. Body clings to riverfloor, pace is quick.

Water feels bad, oil. Skin clenches. *Plastic* smell in nares. Loud.

Pass stripe in sky, glowing steadily, and flashing lights.

Pass green tower into sky, stretching higher and higher.

Nares find strongest *salt*.

Floor falls away. Insect fish flee, maw feeds. Ocean.

Skin clenches with salt. Skin clings to her water.

Body inside feels the way. Body-memory follows her paths through the dark. Pull leads body.

Days and nights. Body swims strong, fast. Hunger overtakes Pull. Hunger leads away from path.

Body feeds along ridge of land, in clear water, far from home river and lake. The distance from home river and lake ache in body. The distance from ocean sea ache in body. Hunger aches in body, strongest.

Maw pulls crab from sand.

Hunger quiets, and body swims away, into deep, following the floor as it dives down.

Skin feels whales, jellyfish, plankton, fish, octopus. Eyes see tuna.

Ocean, open water all around her. Coral below, anemone gasping and waving.

Senses find herring school, movement fast, sudden. One behind, close.

Maw snags stray herring, chews.

Pull leads on.

Day comes, and body hides in high water, above, and swims.

Night brings trip down and through pathways of the reef. Slow swimming, hiding, maw attacks and feeds.

Up around body, fish circle.

Body leaves colorful reef. Pull for sea is deep in belly, orientation strong and tugging.

Old need for old place.<sup>71</sup>

But water shifts. Body feels wrong in water, like stream with oil, but no oil, plastic.

Water warmer.<sup>72</sup> Body shifts. Body moves one direction, then other direction, then other.

Body stop, hovering, coiling.

Lost, expelled, fear sweeping.

Unsmelling, unseeing, unfeeling, unhearing. Unable to move.

Body move in twists, many twists, confused twists, looping twists.

Body empty but Pull is strong. Body move, but around, unknowing. Looping twists.

Empty water spins out all around. Sand trembles. Black fish pecks at it, fumbling. Pod of dolphins frolics by, clicking and churring. Shark approaches, a shadow, a wave, moving without moving. Body see and hide in shuffling sand and dark, still spinning, still confused. Shark passes, a floater, a cloud of dust.

Body spin, spins, moving somewhere. Body is suspended in tight muscle curls, aches, the Pull too strong in her to wait.

Day drifts in. Sun bobs in water, dropping streaks.

Body squirms upward, rising with instinct to lead. Losing purpose. Losing.

Now ocean responds. Current pulls at fins. Muscles ease, body tumbles, pulled along, easy. Dark passageway leads, body follows, energy swelling back.

Body leaves current, eastward, strength in her skin. Body swims forward, down.

Night follows her. Moon awakens and blinks through water. Shimmers and blackness. Body dives, and moon is left behind.

Cool water holds her. Ripples talk to skin: bodies ahead. Coil and wrap and weave and spiral. A deep-beneath, hidden bed.

She has arrived.

Together, they. Sea home billows out around them, exact, holding, fitting. Bedding in. Membraning in. Circling dark. Skin and skin and skin. Muscles flutter. Water hums. Warm

wonder is in them. Heat in cold sea. They feel, they see, they love. Bubbles dot water, rise. And with—tiny buds drift up slow and wait for day.<sup>73</sup>

It is done.

Bodies drift.

Body drifts. Body feels. Body knows.

She is full. She is plenty. She is empty. She is light. She is breathing, she is floating, she is going... She is gone.

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## Notes

<sup>1</sup> I chose to name the gorillas in this story, as I name the Adélie penguins as well. By naming the animals in my stories, I am not assuming that wild animals have names, because I believe that animals don't have as articulate language as we humans enjoy. Some animals do have specialized calls for their mates and close companions—something I consider as close to naming of each other as animals get—but this is a small population. Vicki Hearne discusses in her book, *Adam's Task*, how naming communicates a relationship deeper than what might be relayed by, say, “the female gorilla” or “the thoughtful penguin.” In these stories, I hope to create a deep emotional connection between each character, because this is the level on which these animals know each other. To do this, I felt it necessary to create names for them. In the case of the gorillas, these names reflect a distinct characteristic members of the troop may use to recognize the individual. As for the Adélie penguins to come, their names are based on the calls they make to locate each other. (Hearne 166-71; Masson 36-7)

<sup>2</sup> Chestbeating among gorillas is not only a show of aggression or might, as might be the common belief, but can also signal excitement or alarm. (Fossey 13)

<sup>3</sup> The only predators of gorillas are humans and leopards. (“Do Gorillas Have Enemies?”)

<sup>4</sup> The *Vernonia* is a flowering tree that is common in the mountains of the Congo Rainforest. Gorillas favor the bark, flowers, and pulp of these trees, and also use them for nesting and playing. These groves are so frequented by gorillas in the wild that the tree is becoming increasingly rare in areas where it used to be common. (Fossey 49)

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<sup>5</sup> Through a conversation with Dr. Sarah Dunphy-Lelii, I learned that chimpanzees and other primates have specific areas within their territories that they like to frequent for food, play, and rest. There are even specific locations they travel to during specific weather patterns.

<sup>6</sup> The Congo Rainforest is changing due to a draught brought on by climate change. Because of this draught, trees are dying, which accounts for the “browning” the rainforest is experiencing and Cloud is seeing. (Northon)

<sup>7</sup> Gorillas find a special joy in eating the rare *Rubus* berries. (“Fruit Is a Seasonal Treat”)

<sup>8</sup> Gorillas use vocalizations to communicate their mood, but also to relay more specific information about food. This study by Eva Maria Luef found that most food-associated calling occurs during actual feeding. They “sing” to communicate their discovery of food to each other, as often times they are spread out through the dense forest, and then also during feeding, which will be discussed later on. (Luef et al.)

<sup>9</sup> A picture from *Gorillas in the Mist* shows a female gorilla crouched to groom a silverback. The caption explains what a privilege this is. (Fossey 104-5)

<sup>10</sup> Gorillas laugh very much like humans do. Fossey describes it as very similar to human giggling. They use it to express joy, and often laugh during playtime. (Fossey 94)

<sup>11</sup> Gorillas often build nests for comfort before sleeping. They will pause for a nap during the day and occasionally build nests. This midday nap is usually around noon, and the rest period will be extended if it’s raining. Then they move to a different location for the longer sleeping period during the night, and always build nests for overnight. The nests are built with carefully layered branches. Each gorilla has its own nest, save for infants who sleep alongside their mothers. Female gorillas and young gorillas prefer trees, but silverbacks typically stick to the ground. (“How Gorillas Sleep”)

<sup>12</sup> In a conversation with Dr. Sarah Dunphy-Lelii, we discussed the idea that a pregnant gorilla may not be fully aware of her pregnancy and what it is unless she had had other experiences with it. As the primary female of the troop, Sweet-Berry had definitely experienced past pregnancies, so she uses these memories to guide her through this one.

<sup>13</sup> Sometimes young female gorillas who have not yet produced offspring will choose to switch to a smaller, neighboring troop in order to rise up in rank. The transferring of a post-adolescent female such as Flower should indicate something gone amiss within the troop she is coming from. (Fossey 66)

<sup>14</sup> While talking to Dr. Sarah Dunphy-Lelii, we figured a new, older, and clearly hungry female gorilla wanting to transfer into a troop that’s already struggling to find food would cause the silverback to pause in letting her in. Once she gets past him, she would hardly be accepted by the other members of the troop, who might consider her a threat to their limited attention from Cloud and also their food supply.

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<sup>15</sup> Silverback gorillas maintain a constant feeding hum while eating, possibly to signify the fact that he and the group are currently feeding, and will continue to be at rest. When the silverback cuts off his feeding hum, it is to warn the group that there has been a change in their surroundings, or to inform them that they will be moving on. (Luef et al.)

<sup>16</sup> I found it noteworthy that gorillas often do not look directly at each other while fighting. They pay attention to the other's movements, but to do this, they do not need to be directly facing each other. They will even have their backs turned to each other, after a mock-attack, for instance. ("Silverback Gorilla Fight")

<sup>17</sup> This fight between Cloud and Crocodile is based on a section in Fossey's book in which she describes a fight between two silverbacks as they battle over a female gorilla. Initially, the silverback who is seeking to regain the female's interest attempts to herd her back to his troop, but is chased off by the opposing silverback. There are pauses between each attack and mock-attack, and many chestbeats to dispel stress or show might. Often the silverbacks will dash past each other and pause a distance away in order to feel more secure in the distance between them and regain their confidence for another attack. They can also pretend to be interested in foliage nearby as they gauge their opponent's actions. (Fossey 67)

<sup>18</sup> The defeated silverback will flee from the other, leaving a trail of dung in his fear. The winning silverback may continue to chase him and check the scent of the dung to discern more information about the emotional state of the retreating gorilla. (Fossey 67)

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<sup>19</sup> White storks are gliding birds that prefer to ride thermal gusts over land while migrating. The storks I am narrating in this section are following the Mediterranean/Black Sea Flyway that spans 101 countries and stretches from the Congo Rainforest to northern Russia. ("Mediterranean/Black Sea Flyway")

<sup>20</sup> White storks migrate in large groups. To be able to keep pace with others and maintain the dense flock, a stork must be extremely aware of his surroundings—mainly his companion birds in the flock. This mindset, I feel, is indicative of an extreme external focus, so much so that the storks must think and make decisions as a group, not as individuals. (*Flight of the Stork*)

<sup>21</sup> White storks are faithful, life-long partners to their mates, and perhaps even a little sentimental in their returning to the same nests year after year. (*Flight of the Stork*)

<sup>22</sup> A key migration "rest stop" on the Mediterranean/Black Sea Flyway is the great Lake Débo of Mali. Thousands of wintering birds find food here during their long journeys. ("Mediterranean/Black Sea Flyway")

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<sup>23</sup> The male humpback whales are usually the singers of the pod. The group collectively communicates with snorts, underwater blows, "wop" sounds, cries, barks, etc. (Dunlap 613-29)



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<sup>24</sup> Similarly to the group mindset of birds in a flock, Laurel Braitman discusses the “group-intelligence” of sperm whales, and a theory explaining how whales and other animals that live in groups may experience a type of group-think and group-feel—meaning a collective experience of thoughts, emotions, senses, and motivations, as opposed to individual. This is a theory supported by mass whale strandings. It would make sense that a pod of whales thinking with a group mindset rather than individual would follow each other to their deaths, even if they are incredibly wise and intelligent creatures. This sort of extensive sharing would be made possible for whales by their songs. They can communicate vast amounts of information to each other through singing. (Engber et al.)

<sup>25</sup> Humpback whales traveling in pods commonly resort to “bubble-net feeding” in which they dive deep and shoot up bubbles to confuse their prey and force them to the surface, where they follow and trap them in their mouths. (“Humpback Whale”)

<sup>26</sup> Watching this episode of *Our Planet*, a series produced by the same makers as *Planet Earth*, I was able to get a much clearer visual for what it’s like to be underwater in the Antarctic. This documentary episode details the algae blooms that occur in the early spring, and how this jumpstarts the life returning to the Southern Ocean’s waters. (Silverback Films)

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<sup>27</sup> Adélie penguins dive repeatedly while hunting, and while doing so must avoid the dangers of leopard seal jaws, violent waves, and floating ice blocks. (Ainley and DeLeiris 3)

<sup>28</sup> “Frozen Worlds” enabled me to better understand penguins’ hunting process. Penguins tend to stick together in large groups, even going as far as to take trips to the surface to breathe together. A noun of congregation used to refer to a swimming group of Adélie penguins is “raft”. (Silverback Films)

<sup>29</sup> Skuas are seabirds that live in the Antarctic and prey upon penguin chicks and eggs. My conversations with Susan Fox Rogers, a professor of writing and environmental science at Bard College, taught me this.

<sup>30</sup> There is a scene in “Frozen Worlds” that shows a Gentoo penguin being hunted by an orca. The orca pod chases the penguin and repeatedly headbutts him in attempts to stun him and slow him down, as one penguin is easily more agile than an orca. One-on-one, a penguin could outmaneuver an orca, but a pod of coordinating orcas is a different story. (Silverback Films)

<sup>31</sup> Climate change has brought massive melting to glaciers worldwide, but in Antarctica specifically, the ice sheets that reach out from the mainland every winter and linger into early spring are shorter as well. Because colonies of Adélie penguins are exclusively located where the penguins can find plenty of gravel and stones for nest-building, they must cross the ice sheets to reach open water and their food sources. Rising temperatures have caused the disintegration of these ice sheets and shelves, which shortens the distance many colonies of Adélie penguins must travel in order to reach the open ocean. This enables the penguins to deliver more food to their chicks—as they do not use as much energy on their treks back—and they are able to return to their mates sooner, which decreases chances of penguins abandoning their chicks out of hunger

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while waiting for their mates to return from hunting. The effects of climate change have been unusually helpful to many colonies of Adélie penguins. (Ainley 244-56)

<sup>32</sup> Sometimes, when Adélies finally reach land again after a trip to sea to feed, they will mutter the calls they will use to greet mates and chicks, already anticipating their reunion. (Ainley 3)

<sup>33</sup> Gay penguin couples in captivity have been observed to “adopt” stones—perhaps in hopes that they will hatch. Adoption is common among gay penguin couples, and in the wild, penguins will steal the eggs of others. This information is from Susan Fox Rogers.

<sup>34</sup> Adélie penguins mate and lay eggs within a few days. Chicks hatch about four weeks after the eggs have been laid. Both parents alternate trips to collect food. (“Breeding”)

<sup>35</sup> After eggs are laid in early spring, the females leave for over a week to hunt, leaving just the males to incubate the eggs. The colony population is post-peak size, and will not reach the original number past this point due to the trade-off of feeding chicks. Po and Ta, however, do not have a typical Adélie penguin partnership. (Ainley 107)

<sup>36</sup> This short and violent video shows a fight between two Adélies in which they stab with their open beaks, aim for each other’s necks, and stumble repeatedly. They flap their flippers constantly for balance, and at one brief instance, one penguin holds the other down with a grip on his head feathers. The video ends as the loser moves to his stomach and attempts escape, still pursued by the winner of the match. (Loukhal)

<sup>37</sup> Certain birds tend to prefer certain eggs, even eggs that don’t look much like the eggs of their own kind. On average, the bigger the egg, the more attractive, even if the egg is much larger than typical eggs of the species. Many birds may believe that bigger eggs will produce bigger and stronger chicks—chicks more likely to survive. I learned this in a class I took with Dr. Arseny Khakhalin, a neuroscience professor at Bard College.

<sup>38</sup> Adélie penguins are so good at staying warm that sometimes they’re too good. Their feet will overheat, so at night, they’ll often stick their feet in the air to cool them. This information has been pulled from a conversation with Susan Fox Rogers.

<sup>39</sup> Egg-rolling behavior is common among many types of birds. To move eggs as gently as possible, birds nudge them with their beaks and typically roll the egg towards themselves. I learned about egg-rolling behavior in class with Dr. Arseny Khakhalin.

<sup>40</sup> The true nature of penguins’ sex lives was introduced to me by *The Truth about Animals*. This book details the very first studies of Adélie penguins, done from 1911 and 1912. Dr. George Murray Levick, a surgeon and zoologist, studied the Adélies for an entire breeding season—the only scientist to this day to boast this. As one might assume, he wrote and published plenty of his notes. Except, that is, for one paper titled, “Sexual Habits of the Adélie Penguin” (it was labeled, “Not for Publication” in “large, unfriendly letters” and written in Greek). In this scientific paper, he detailed plenty of explicit activities between penguins of his colony. In her book, Cooke shares that female Adélies sometimes take advantage of the males’ overactive sexual desires in

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order to steal pebbles for their nests. I figured it wouldn't be too far off to assume a male penguin may do this in order to steal an egg. (Cooke 237-41)

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<sup>41</sup> Great white sharks migrate due to changes in season and water temperature. Because of this instinct and the fact that climate change is causing oceans to warm, they may be moving further south than usual, as far as the Antarctic. It is not out of the question that a particularly adventurous great white shark could enter penguin region. This idea comes from a conversation I had with Jane Colon-Bonet. The PBS documentary, *Great White Shark: New Perspectives On An Ancient Predator*, also hints that there is evidence sharks may travel as far south as Antarctica.

<sup>42</sup> Great white sharks have livers full of oil to allow for easy buoyancy and fast swimming. When they attack, their jaws, only attached to their head by cartilage, protrude outwards and they roll their eyes back to protect them. (*Great White Shark*)

<sup>43</sup> Sharks are territorial, quite social creatures. They use body language and “dances” to communicate to other sharks where their territory is, and whether they are welcome or not. The dropping of pectoral fins and the raising of the spine communicate dominance. (*Great White Shark*)

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<sup>44</sup> *Octopus: Making Contact* features a marine biologist named David Scheel and his pet day octopus named Heidi. The film goes into detail about how octopuses change their skin color and texture to blend into their surroundings while hunting, eating, and hiding from predators. Though, oddly enough when considering the octopus's amazing ability to camouflage itself, it is completely colorblind. Instead, it matches its surroundings with help from its photoreceptor cells that are found not only in its eyes, but in its skin as well. The exact process of how these cells can detect color is not yet known, but somehow, octopuses understand color, even if they cannot see it. (*Octopus: Making Contact*; Godfrey-Smith 119-23)

<sup>45</sup> Sometimes octopuses shift to a darker color while attacking, whether that's prey or another octopus. This may be caused by an emotional response. (*Octopus: Making Contact*)

<sup>46</sup> Octopuses have distributed brains and “ladder-like” nervous systems, which means their brains are split throughout their body, including their arms. Their arms are semi-autonomous and contain three fifths of an octopus's neurons, so they are able to act independently from the main body, though they seem to still follow direction from the brain. The arms may even have a form of short-term memory. If severed, they will continue to hunt and catch prey, and attempt to bring it to where the beak used to be. This is largely due to the help of its suckers. The sucker is highly sensitive and extremely strong. The suckers also allow the octopus to taste. I learned some of this information from Dr. Arseny Khakhalin. (Godfrey-Smith 44, 66-9; Montgomery 14)

<sup>47</sup> The only solid parts of an octopus's body are its eyes and beak-like mouth. This allows an octopus to change shape freely, and fit its body into very small spaces. A bite from an octopus can inject neurotoxic venom into its prey, and its saliva can dissolve flesh. Octopuses feed by

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transferring their prey quickly from sucker to sucker along its arms before reaching its beak. (Godfrey-Smith 48; Montgomery 3, 105)

<sup>48</sup> As mentioned, skin color and texture too can indicate an octopus's mood. After a successful hunt, she moves on, lighter and content. (*Octopus: Making Contact*)

<sup>49</sup> Coral is sensitive to water temperatures. Due to global warming, ocean temperatures are rising and causing coral to separate from the plantlike zooxanthella organisms they have a symbiotic relationship with. When they separate, the coral loses its color and becomes much more susceptible to death. Coral can recover from these bleaching incidents, but such a process takes a long time, and these events are becoming more and more frequent. Once the coral dies, the fish, mollusks, echinoderms, and other inhabitants—totaling to about one million species—die due to lack of food, or move on. Contributing to coral death and the destruction of reefs is the amount of carbon dioxide that is being absorbed by the ocean. Due to increased CO<sub>2</sub>, water acidification increases, and with a low pH, coral's ability to produce their skeletons decreases. According to a recent study, acidification may also affect the reproductive abilities of some coral. It is becoming more and more evident that the danger coral faces as a result of global warming and climate change is too fast-moving and detrimental to allow for the affected coral's recovery. (Pierre-Louis and Plumer; "What is Ocean Acidification?")

<sup>50</sup> Octopuses and other mollusks have evolved to use jet projection in order to move and "hover" in the water. They usually prefer to stick close to the ground and avoid open water for safety, however. (Godfrey-Smith 45)

<sup>51</sup> The Sargasso Sea is a calm patch of water in the Atlantic's Bermuda Triangle. Ocean currents do not disturb its waters, other than the occasional delivery of a new water plant or debris from some distant coastal region. Its floor is a dark forest of weeds, some sargassum, a tan algae weed, from which the Sargasso Sea gets its name. (Carson 25-7)

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<sup>52</sup> American eel eggs hatch near the surface of the water after they float up from below. They are believed to be incubated by the warmth of the sun. (*The Mystery of Eels*)

<sup>53</sup> American eels hatch, spawn, and die in the Sargasso Sea, but they don't spend their entire lives there, which I'll explain later. It has been proven that eels spawn here because eels in their larval stage, called *leptocephali*, have been found drifting near the surface. But eel mating and spawning has never been witnessed by the human eye, and is still a great mystery. I have heard multiple eel experts refer to eel sex the "holy grail" of eel research. For a long time, another holy grail of eel research was their sex organs themselves. Centuries of eel scientists were involved in this search, and it took them until 1777 to find the female's ovaries, and until the late 19<sup>th</sup> century to discover the testicles. This is because the eel only develops its sex organs in its last stage of life. (Cooke 8-20; Prosek 3-9)

<sup>54</sup> *Leptocephali* float in mats of sargassum weed on their way to the coastline and fresh water. They are protected by their transparency, and able to float easily due to their flat shape. (Prosek 115)

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<sup>55</sup> It's not certain what leptocephali eat, but it is suggested that they eat primarily particulate and dissolved organic matter. (Bonhommeau 73)

<sup>56</sup> Leptocephali take advantage of ocean currents to bring them to the southern coastal areas of North America, and then northward. They are pushed along due to their wide, continuous dorsal/pectoral/anal fin and leaf-like shape. This information is from a conversation with Chris Bowser, a Hudson River educator and eel expert.

<sup>57</sup> Eels undergo a large physiological, biochemical, and morphological change in their transition from larval leptocephali to the young "glass eel" stage. Their bodies change from leaf-like with long fins to narrow—a proper eel shape that they will sustain until they are adult silver eels. They do not feed during their change, until they reach freshwater. (Bardonnet and Riera 201-9)

<sup>58</sup> American eels begin and end their lives in the Sargasso Sea, but most spend a majority of their lives in the freshwater estuaries of coastal America. The leptocephalus stage is spent mostly being pushed along by ocean streams until the young eel finds itself in an estuary feeding from the ocean. Around the same time it enters freshwater, the eel enters the glass eel stage. Because they inhabit both freshwater and saltwater locations in their lives, American eels are diadromous fish. All other North American diadromous fish are anadromous (spending their lives in the ocean until migrating to freshwater to spawn), but American eels alone are catadromous (living in freshwater until adulthood, when they migrate to the ocean to spawn). In freshwater, the eel finds its longtime home, as far inland and away from the ocean as it can get. Most eels find their longtime homes in freshwater, as far north as they can get—possibly to avoid competition with other eels. But some are content to stay in brackish water, or even in saltwater in a coastal area. I learned parts of this paragraph from a presentation by Dr. Erik Kiviat, Executive Director of Hudsonia, and from a conversation with Chris Bowser. (Prosek 3; Tremblay, et al. 5)

<sup>59</sup> Eels have two pairs of nares—a fish's nostrils—that they rely on for smell. One pair is incurrent and one pair is excurrent. This information is from a conversation with Chris Bowser.

<sup>60</sup> Glass eels feed largely on plants and plankton. (Bardonnet and Riera 201-9)

<sup>61</sup> Eels must take smaller bites and twist their bodies several times per second in order to tear pieces off of larger food sources. (*The Mystery of Eels*)

<sup>62</sup> The Hudson is known to the Mohican Nation, a people who are indigenous to the Hudson Valley, as "Muhheconnuk" which means "great waters or sea, which are constantly in motion, either flowing or ebbing." The name refers to the fact that the Hudson is affected by the ocean's tides, and the current of the water shifts in response to this. (*The Mohicans*)

<sup>63</sup> I return to the use of "they" to describe my main character and the others it is interacting with here because I think the group-think concept I introduced with the humpback whale section could be experienced by eels as well. As James Prosek says in his book, eels, when more common in the wild, were known to travel in groups to assist in climbing waterfalls, or just while migrating. These "beds"—a collective noun for a congregation of eels—are no longer common

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occurrences because of the decline in population due to overfishing, pollution, and habitat loss. (Prosek 118)

<sup>64</sup> Eels can survive on land at night for up to 48 hours, granted that it has recently rained. They do this thanks to their breathable skin. They use this ability to travel between bodies of water. (Cooke 10)

<sup>65</sup> The yellow eel stage is the last stage before maturity, but they do begin to develop sex organs at this stage. Eels at this stage have usually become residents in a selected waterway (estuary, river, stream, pond, lake, etc.). They stay in this home body of water for ten to one hundred years, depending on the species. They are named for their yellow-brown or olivaceous hue. (Prosek 117; Tremblay 5)

<sup>66</sup> Eels first develop sex organs once they reach the yellow eel stage so they are ready for their migration in the silver eel stage. But even more fascinating is the fact that eel population density seems to determine the sex they take on. Eels that choose to live in highly populated areas closer to the ocean tend to be males, which are the smaller, weaker, and shorter-lived sex. But eels that move further inland and end up in less populated areas turn out to be female—the larger, stronger, and longer-lived sex. It's more difficult to live as a female eel, as their bodies require them to feed more in order to both sustain their larger bodies and produce eggs. I learned this information from a conversation with Chris Bowser.

<sup>67</sup> For most of their adult lives, American eels feed on worms, small fish, crustaceans, and mollusks. But while they are preparing for their several hundred mile journey to the Sargasso Sea, their appetites expand. (“American Eel”)

<sup>68</sup> When American eels reach maturity, they begin to prepare for their hundred-mile journey back to the Sargasso Sea. During this feeding frenzy, they will eat “anything that moves,” including other eels. (Abumrad and Krulwich)

<sup>69</sup> James Prosek reports in his book that no matter where eels are born, they have an impossibly strong instinctual pull to return to the ocean. In his experience while keeping them, his eels will escape from the tank and crawl across the dry floor of his house, try to escape through filters, rub themselves raw against the glass, and even bang their heads against the walls of their tank until they kill themselves. I try to reflect this same urgency through use of capital letters. (Prosek 3-4)

<sup>70</sup> Silver eel is the final stage in an American eel's life. Their skin coloring shifts from the olive-yellow hue of the yellow eel to black with a white belly, and their eyes grow larger. It is the stage eels enter when they have left their residential area. Though sometimes they follow an indirect route, as I illustrate with this eel. (Prosek 117)

<sup>71</sup> Eels are an ancient species, having been around for about two hundred million years. The freshwater eel evolved more than fifty million years ago into fifteen separate species. They have survived ice ages, countless climate changes, and geographic disturbances such as continental drift. I am fascinated by the idea, brought up by eel expert James McCleave as quoted in *Eels*, that the American eel's ocean spawning location may have been closer to the coast at one point

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before continental drift. This might help explain why eels travel so many miles to return their spawning location. But other than that, nobody knows why, or even how, eels always return to the Sargasso Sea to spawn. (Prosek 2, 133)

<sup>72</sup> Migrating eels, both leptocephali and silver eels, often depend on ocean temperatures to get their bearings in the vast open water. The change in ocean temperatures due to global warming may confuse them and render them unable to find their way. (Jacoby et al. 321-33; Prosek 4)

<sup>73</sup> Very little is known about eel reproduction. It has never been witnessed and scientists can only speculate on what happens deep in the Sargasso Sea. This leap of fiction has been written with the help of Chris Bowser and his speculations that eels gather in one large group, or bed, deep in the Sargasso Sea and mate together. (Abumrad and Krulwich)

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