Communicable

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1.

The *Arizona Daily Sun*'s annual "Fleas Test Positive for Plague" article came out early this year. This time, they found the fleas out by Herold Ranch Road, near I-40. About a mile from my house. The fleas that carry the virus live on and in what are left of the prairie dogs, who live in what is left of the prairie dog towns, some of which, flea-and therefore possibly plague-ridden, predominate in Flagstaff, Arizona.

Prairie dogs once numbered in the billions but, due to shootings, poisoning, and habitat loss number now in the tens of millions. Ranchers don't like prairie dogs for the grass prairie dogs eat. Better to save it for the ranchers' cows, so say the ranchers. Developers don't like them for the way they get in to human habitats. Humans prefer sidewalks and houses and lawns without unsightly mounds popping up. Caddyshack's plague could easily have been prairie dogs instead of gophers.

Although one may confuse a gopher with a prairie dog, a ground squirrel with a potgut, there are only a few species of prairie-colored mammals to confuse with another. There are 2,500 species of fleas, thereby, we can gather that fleas number in the more than 20 million or billion or maybe even trillion. Try telling species *Ctenocephalies felis* (cat fleas) apart from *Ctenocephalides canis* (dog fleas). Scientist-humans are talented with microscopes but to the average human, one flea bites just like another. Just as John Donne knew.

The black plague is what we call it when humans contract the plague. Sylvatic plague is what we call it when wild animals contract the plague, but it's the same plague either way: a generalized plague that jumps species as easily as fleas jump from one body to another to another. Prairie dogs are unusually susceptible to it. They're carriers and also victims. Of the primary ways prairie dog populations have been decimated, plague is one of most persistent, killing prairie dogs nearly 100 percent of the time.

Health agencies, as they do every year, caution Flagstaff hikers to be aware of the virus-carrying fleas. They tell us to stay away

from prairie dog towns and to put our nonprairie dogs on leashes (as required by state law, the paper takes a moment to scold 90 percent of us Flagstaffians who walk our dogs off leash) and to take our non prairie dogs to the vet to have them fitted with flea collars, which we never have purchased before because I have never seen a flea in Flagstaff. When I lived in Portland, I spent hours plucking fleas off my first kitten. I liked to squish the bugs between my finger and thumbnail — popping their exoskeletons like zits. In Portland, it rarely freezes. In Flagstaff, it freezes every night if not every day in the winter. But now it is June and it hasn't frozen for a month. And, now it is climate change so maybe the rising temperatures invite the fleas to habitate on prairie dogs earlier. Maybe fleas are different now then they were just a couple of years ago. I don't know who to ask but, as I'm walking my flea-collarless, collarless, nonprairie dog next to prairie dog town, I consider asking the prairie dogs. I feel, when I walk by them, as they poke their heads out of random holes like a game of Whack-A-Mole where the moles are prairie dogs and the prairie dogs always duck the mallet, that the prairie dogs have something to tell me.

2.

Hannah had a tiny mark on her ankle. It wasn't like the kind people get in Portland, where you have a track of flea bites around your sock lining. It wasn't like in Portland when you could lie on the carpet and watch as a flea jumped from carpet thread to couch thread. Fleas weren't really a thing in the valley. She scratched her ankle once and moved on. Her daughters, Kaitlin and Tiana, scratched their bites a couple of times — flea, mosquito, spider, plain old dust. Who knew? It was generalized itching. They were in Flagstaff on vacation, and, as we all know, vacations are itchy.

3.

They said you would know death by the smell of it, and Palmpinea knew it. The problem with stench is that it's as contagious as the disease itself. Like fog on water or fleas on rats, stench wrapped itself around stone walls, chimneys, iron cauldrons, wood

for burning, wood for building, on his garments, over his door, down the hinges, across the cobblestones, through her keyhole, onto her skirts, up her apron, through her kerchief she kept tied around her neck. She pulled it up over her mouth, over the bridge of her nose. She would have pulled it all the way over her head but the stench, like death, could penetrate even the thickest fibers. She felt it crawl over the edge of the cloth, edge its way down. It percolated through the stitching, between the threads. The whole world smelled like burning flesh. It wasn't an exaggeration: the whole world burning from the inside out. Pustules and tumors exploding like barrels of gunpowder in a warehouse, turning whole bodies as black as fire turns river banks, forests, cooking stoves gone rogue. The only antidote to fire is water. She risked the burn, pulled down the mask-acting-scarf, and called to Filomena. "We should get to the country where the corn waves as the sea. We have so much there. There is nothing for us here."

"Nothing but our homes. My sister. Your mother. Elisa," Filomena argued.

1.

The plague doesn't move like it used to. In 1348, the plague killed 30 percent of the European population. It's not like there are fewer fleas now or fewer rats, although there are fewer prairie dogs. More people live in congested cities. More people live proximate to one another. Even when there is a spike in plague outbreaks, like in 2015, only fifteen people contracted the plague.

The plague that kills nearly 100 percent of the prairie dogs once killed 50 percent of European humans. The plague leapt from town to town, village to village. As humans fled the plague, the rats followed the humans. The fleas followed the rats. The plague bacteria followed the fleas. Some towns, like Pistoia, in Italy, prohibited people from visiting plague-ridden towns. If someone did venture beyond the city walls, they were not allowed back in. Clothing, tapestries, silks or woolens were not allowed in the city, suggesting that they may have had an idea that contagion could ride in on articles besides bodies or air, but it appears that they didn't hone in on the flea as the culprit. Or the bacteria-infected flea. And even if

they had, what would they do? Pesticides didn't exist yet. No one sold flea collars and combs for your dogs. The rats are like the rats everywhere — persistent and, indeed, ubiquitous. Even with such severe prohibition, the town of Pistoia eventually succumbed. Rats are clever. Fleas are hungry.[1]

Because of the big black pustules that grew from an infected person's groin, neck, and armpits, people tended to stay away from infected bodies. Everyone was dying. Maybe things would get better soon? Some thought that as the population declined, more goods and foods would be available, but that turned out not to be true. You need people to make bread, butcher cows. Most people stayed confined in small groups, usually in their homes, eating small meals of oatmeal porridge, a very tiny amount of meat, "some thin ale,"[2] avoiding crowds. In public spaces, oral communication was either prohibited or strongly discouraged. Indoors, people took small bites of their soup, tight-lipped sips of mediocre beer, and then kept their mouths shut to keep from passing on the disease.

2.

Still, Hannah had never felt sick like this before. Her mouth watered but she didn't want to eat. She couldn't throw up but she also couldn't swallow. Her legs and stomach bloated, her armpits sore. Something had been going around. Tiana had complained of a stomach ache and Kaitlyn had a cough. It was one of those Sundays you could actually take off, do nothing. They had seventeen more episodes of *Gilmore Girls* to get through. If only they could convince someone to bring them ginger ale.

3.

Pamfilo smells exactly what Palmpinea smells, but instead of revolting him, the scent turns him on. Well, not turn him on exactly but the smell makes him hard with denial. Or maybe it's full on acceptance. Either way, the end is nigh, and he plans to fuck himself to death before death fucks him. He doesn't care if pustule bumps pustule. He will dance into the flames — or, even better, maybe his dancing will keep the flames at bay.

It's easier than it used to be, convincing a young maiden to follow him to the woods. She knows what's on his mind. Palmpinea has two minds about it: on the one hand, live while you can. On the other, she has seen many men go down with the disease. Women too have died but she's seen women down for the count and then come back up. Perhaps following the man over toward the riverbank acts as a kind of prophylactic.

"You can't smell anything out here," she tells Pamfilo.

Pamfilo says, "I would like to smell the smell of you."

"Shhh," she tells him through closed lips.

She ignores his bad puns. She gets his gist. She doesn't want to think about the smells he means — either hers or the ones he's trying to ignore. She just wants a break from the incessant worry and fear and crying. Her sister has died. Her mother has died. She has no one left to tell her what she's doing is wrong or right. Impending death affords a kind of freedom.

She's wearing a skirt to make it easy. She sits on a stump beside the water. Pamfilo kneels between her legs. He lifts her skirt high to her thigh, puts his face against her undergarments. The panties are like a mask but he wants to breathe free air. He puts his tongue against the threads, making an indent where an indent should go. His fingers creep over the fold, pushing the fabric aside. The cloth unfolds before him. She unfolds before him. He rises up on his knees and presses his hips toward hers. It is not an age where a woman is expected to come, but she comes anyway. Pamfilo and Palmpinea, defiant against death for one grand minute.

1.

Unlike most mammals, prairie dogs stand on their hind legs. These rodents are not the big-stomached pot-bellied gophers or the almost-too-quick-to-see, black-stripe-down-the-back, Disney's Chip and Dale chipmunks. They're sleek when the stand up. They are quick. They are taking a big risk rising up on their hind legs to chirp at one another. "Look out, look out!" says the prairie dog. But while it's easy to hear this as a general alert, the prairie dog doesn't mean it that way. He means it very specifically. A hawk circles above. His body moves. He makes a noise that means "hawk" but he doesn't even have to open his mouth to say it.

2.

"Mama," my armpits hurt.

"Mama," my throat hurts.

But the mama can't do anything about it because her armpits and her throat hurt too. She hopes for just one more season of *Gilmore Girls* to get them through this sickness. Hannah has never been laid up for so long. She's so thirsty. She bets the girls are too. She needs to get everyone a glass of water or selzer or juice but she can't force herself to move. One more episode. And then she'll get up.

3.

Palmpinea says to Filomena, "We are still alive but you can tell. It's encroaching. Everyone is dying. We have to get out of here."

"If we go, we can't come back. What about Elisa? She is alone in her house. Her father lies dead outside the front door. Burned to a crisp. His skin is black as a thin-necked rooster. She's in there. She's sick. We can't just leave her. She's twelve years old."

"You just said it. She's sick. She's twelve. We can't take her with us."

Sick and twelve years old signal one way: save her, take her with you. Then, sick and twelve years old signal another way: leave her or you'll die too.

Said. Saying, had said. Sick. Palmpinea and Filomena keep talking to each other. They may as well be having sex. Communicable. Communicable.

1.

According to Dr. Con Slobodchikoff, a researcher at Northern Arizona University here in Flagstaff, prairie dogs don't merely chirp generalized sounds. They distinguish. The chirp, the pitch, the number of them, denote a hawk or a wolf or even a coyote. I can't even tell the difference between a wolf and coyote in pictures.

I use the word *denote* here purposefully. In linguistics, the distinction between *connote* and *denote* is context. *Connote* is the generalized message — the idea that we live in a dangerous world full of snakes, coyotes, wolves, and hawks. *Denote* means that the prairie dog looks up when he hears one sound, look down when he hears another, look far out there, past the third hill. Here's what the prairie dog says with his tweet and bark: "That's a coyote, better at pulling prairie dogs from the ground than wolves."

2.

Hannah doesn't like doctors. She doesn't trust them. They don't listen to her. They should understand that she wouldn't come in unless there was something really wrong. Tiana's never been sick more than a day before. It's been six now she's been lying on the couch. The *Gilmore Girls* long over. Kaitlyn's cough is dry, unproductive. She goes to sleep at night crying that her throat hurts. Hannah gives her Nyquil because she needs to sleep and she also needs to sleep and there is no one but she-people in this house and still they haven't got any ginger ale.

3.

Filomena takes Palmpinea by the hand, leading her out the wooden door, across the dusty path, across the short cobblestone walk that the villagers had gotten together to pay for the stonemason to build. He had begun to lay the first hundred or so cobbles. And then the stonemason's son died. Then the stonemason died. Palmpinea loved the chance to let her skirts fall and drag on the ground so she could use her hand to press her scarf against her mouth. Filomena never carried her skirts anyway. She didn't cover her mouth either. She had seen men who covered themselves from head to toe in black robes die. She'd seen women from the stone houses on the hill whose skirts never touched dirt be carried through town on their way to the cemetery covered in boils — if the hole they threw body upon body upon could be called a cemetery. Cloth was not a thick enough barricade. Neither was stone. Neither, it seemed, was money. It was more than air that carried death. It

was, it seemed, life itself. Everyone carried death on the life of them. You may as well carry your dear Elisa too. If Filomena had known that if Elisa carried no fleas, Filomena could have carried flea-free Elisa out of town into the countryside. Elisa would have still died but there was a chance Filomena could have survived. Body to body wasn't the trouble this time.

1.

The trouble facts: In Boccoccio's *Decameron*, the plague in Florence forms a frame story. Seven women and three men take off to the countryside to wait out the plague. While they're there, they each must tell a story. Eventually, the plague in Florence bookends one hundred invented stories. We get a little sense in the introduction of what Florence was like before his characters Filomena, Palmpinea, and the other women, along with their attendant men, took off to the countryside to escape the plague. But it's a kind of generalized sense of badness. Bubos (the generally gross word from which the bubonic plague takes its name) formed in the groin and armpits. Fat, black tumors that would be a sign of death to any general audience. You don't need a doctor to diagnose pustules. There's a general sense that burying these people is generally hard on the burier. That the smell is bad, the look so bad, the fear so bad, the percentage of death so bad that children were left behind as their parents scrambled to the countryside.

The countryside seemed so safe. But in an article from *History Today*, Ole J. Benedictow says that "to reinforce the thesis that the plague spreads from flea to human to flea to human and not human to human, argues that another very characteristic feature of the Black Death and plague epidemics in general, both in the past and in the great outbreaks in the early twentieth century, reflects their basis in rats and rat fleas: much higher proportions of inhabitants contract plague and die from it in the countryside than in urban centres,"[3] but Giovanni Boccaccio, while writing the *Decameron*, couldn't know that. The people then didn't know that. It must have seemed like people were the problem as it most often seems like people are the problem. I am much happier to live with the fleas in Flagstaff than the humans in, say, Phoenix. It's much easier to count dead people in cities. And although Benedictow is using the

facts of disease transmission to further his case that over sixty million people died during the plague, actual statistics for how many people died, and what percentage of them died in towns or in the country, are as hard to know now as they were in Boccoccio's time.

His facts promote his argument but if you move the facts from one side of the story to the other, perhaps new theses emerge: In the countryside, sure, the rats are there but maybe not in so great a number. Perhaps, in the city, it's easier for a flea to jump from a rat to a person because there are more people, and, therefore, probably more rats. In the country, the rats have space, maybe even some wilderness where they can do their rat business and die of the plague alone and unfettered like the prairie dogs of Flagstaff.

2.

"How do you feel, Kaity?" Hannah asks her daughter.
"I feel yucky."
"Where? Still your throat?"
"Everywhere."
"That's not very helpful."
"Do you still feel sick, Mama?"
"Yeah, I don't feel so hot."
"Where do you hurt."
"Everywhere."
"See? Everywhere."

3.

Elisa's hands are turning black. This is a sign of the black plague. Her lymph nodes are engorged and filled with blood. This is the sign of the bubonic plague. It doesn't matter what you specifically call it. Elisa is alone and probably dying. Her mother and father have left her. Filomena and Palmpinea know necrotic tissue means only one thing. While they may not know that her buboes are small hemorrhages of lymph nodes, that it's a bacterium that causes the nodes to expand, that the flea that bit her has hopped on to a new rat and is busy planning its next leap, they do understand patterns. They have witnessed the order of events. With enough

data, it's easy to sequence as well as a computer. First the fever, then the buboes, then the wheezing, then the dying.

How do you tell someone you're leaving them behind to die?

Well, you probably don't.

Filomena did the only thing she could think of to signal goodbye without having to say the words. She touched her arm — the part with no pustules or black spots, the part still tan as her own skin. She put her fingers on her arm, pushing hard enough to leave fingermarks. If there was resistance, she didn't feel it. The bacteria didn't feel it either, but there was a little time-buying, maybe only seconds, a little antidote, if not antideath, in the pressure.

1.

The first signs of plague aren't unusual — maybe you've just come down with a cold. Your head hurts. You're throwing up. You've got a bit of a fever. A regular old flu. Everybody gets the flu. But then the pain focuses specifically. Your neck or your upper thigh. Possibly near your armpits — anywhere a lymph node would be — aches as if air filling a balloon — which an accurate picture but that it is bacteria ballooning in your blood vessels. Some of the blood vessels burst. Your skin begins to turn black. Big black knots called buboes, which means swollen lymph nodes, protrude. Buboes mean specifically, bubonic plague. Blackened skin means, specifically, black plague, but both mean, in general, death within ten days.

2.

"It's a virus, Miss Phillips."

"Call me, Hannah."

"It's a virus, Hannah. We can't give you antibiotics for a virus."

"If it's a virus, I'd be better right now. My body. It's good with viruses. I had the flu last year. Forgot my flu shot. Still. I was better in a couple days."

"Every virus is different. You need some rest. Fluids."

Hannah has a very hard time putting her arms down by her side because of the pain in her armpits, but she manages to lift her-

self off the table. The doctor doesn't notice. It took all she had in her to get herself to the doctor's office. She had hoped she'd have the energy to stop at the store for some ginger ale. Now she's not sure she has the energy to get herself home.

3.

Benedictow, in that same article for *History Today*, writes, "For various reasons women and children suffer higher incidence of mortality from plague than adult men,"[4] But in an article titled "Sex Differentials in Frailty in Medieval England" published in the *American Journal of Physical Anthropology*, Sharon N. Dewitte found that males were more likely to succumb to the plague because osteological stress markers generally indicate an increase in mortality. "This suggests that in this medieval population, previous physiological stress increased the risk of death for men during the Black Death to a greater extent than was true for women." Dewitte admits that "generally" may not apply to mortality in the fifteenth century. Perhaps the plague cared not one whit for how women had suffered previously. It maybe have killed the women generally, saving specific death for men who had suffered specific physical ailments previously. "In addition to estimating life expectancies from skeletal samples, biological anthropologists can examine osteological stress markers which form in response to episodes of disease, malnutrition, or other physiological stressors to determine how sex affected risks of morbidity and mortality in past populations." But, as Dewitte investigates bones dug up from East Smithfield cemetery, she discovers that there is a good probability that women succumbed to the plague in slightly smaller numbers than men. In discussion of her findings, Dewitte wonders "Is either inference about the sex pattern of Black Death mortality consistent with existing evidence regarding sex differences in medieval plague mortality?" Several contemporary chroniclers believed that more women than men were killed by the fourteenth-century Black Death, while others claimed that the epidemic killed indiscriminately (Cohn, 2002). Previous investigations of the sex patterns of Black Death mortality using skeletal remains from the East Smithfield cemetery suggest that neither sex was at a disproportionately elevated risk of dying during the Black Death relative to the patterns observed under con-

ditions of normal mortality (Waldron, 2001; DeWitte, 2009). However, some have interpreted the higher number of males within East Smithfield as indicating female advantages during the Black Death (Waldron, 2006). Is this wonderment more a fact than a fact itself? For now I wonder at Beneditow's claims. I feel more persuaded by Boccaccio's Filomena. She's at least alive in *The Decameron*.

1.

Every year, they run the same article! Plague in Flagstaff. If you're not paying attention to the way they run a similar article over and over, you might panic. You can imagine that *Yersinia pestis* threatens to fill your bloodstream with its bacterial descendants until they find a lymph node. They collaborate to infect. And then they really begin to communicate. Let's fill up this pocket. Let's see how far this nodish organ can expand. Maybe, if we talk to each other enough, we can build a fortress against this body's attempt to expel us. Come over here, fellow bacterium. Let's build a wall. Bacteria, like humans, can do some really cool things when they band together. Also, some really nasty things.

It is not always easy to figure out what anyone is saying, let alone what to do about it. Slobodchikoff and his team of graduate students had low expectations about prairie dogs. Or, rather, they didn't make suppositions. They just went into the field to see what they could see, somewhat like Pamfilo and his efforts with women. Maybe something will help, maybe it won't, but at least you're outdoors in the sunshine, focusing on something besides the end of the world.

As they sat in the dirt, they watched the one prairie dog with the big black streak on his nose pop out of his hole and chirp, which seemed to elicit the fat one out of his hole. The whiskers on the fat one wiggled as he repeated the chirp of his black-nosed brother. The chirping brought two more out of their holes. One of them looked around, toward the sky, seemed to shake her head, chirp twice and head back into her hole. Two more popped out. Five prairie dogs chirped in small clicks and beeps. At once, everyone seemed to raise their heads toward the big blue sky that is the only part of their habitat that has not changed. The female prairie dog

had it right. Duck and roll. Return to headquarters. Incoming hawk. Mayday. Mayday.

2.

By the time they'd called the CDC, they'd separated Hannah from her daughters. Flu is virus is common is get-over-able until it's not. The nurses double-gloved. The doctors stayed at arm's length. They'd seen black skin before: burn victims, frostbite, gangrene. But these were feet, not necks and armpits. Of course, the toes and fingertips were black too. Maybe it was a kind of frostbite. Armpits and necks could be exposed, maybe. Except that the ambient temperature in the valley hadn't dipped below sixty-five for two months now. Late onset frostbite. That was, as far as the doctors knew, not a thing.

3.

Filomena and Palmpinea gather their posies and told Elisa they would be back. They shut the door, marked it with some ash, and pulled their scarves over their ears. Cloth over ears did no more to prevent the ears from hearing Elisa's weeping than it prevented bad air from seeping through their scarves to their mouths and noses. But *Yersinia pestis* doesn't communicate by air. Sound does. The waves penetrate and penetrate. Palmpinea won't hold Filomena's hand as they walk back across the hundred cobbles. She's afraid of touch. Which she should be, but not in this case. Here, you need an interloper, a flea the ilk of John Donne's master plan, to truly make an impact. Not even Pamfilo will be the bridge. No one understands bodies any better than they understand words.

1.

Slobodchikoff and his students took the recorded prairie dog chirps back to the lab to run a computer analysis on the noises to separate frequencies and overtimes. Once they found discrete clusters of frequencies, they compared them to other recordings and

found that they indeed matched: when hawks flew by, one cluster of sounds. The sight of a coyote, another. The sight of humans, more.

The chirps and beeps don't merely signal alerts. Slobodchikoff and his team noticed that the prairie dogs talked a lot and not only when threats presented. He noticed slightly different chirps when humans walked by. He ran a new experiment. He sent four people of differing height, a thin one, a fat one, one wearing a yellow shirt, another wearing plaid to walk through the prairie dog town. "Essentially they were saying, 'Here comes the tall human in the blue,' versus, 'Here comes the short human in the yellow.'" Even though we generalize about prairie dogs, they're a nuisance: they trip the cows, they make the lawn bumpy, they carry the bubonic plague, the prairie dogs manage to be specific. To the prairie dog, there are no general humans, there are distinct ones in blue shirts, in yellow shirts, tall ones, fat ones, skinny ones. Even though they should be saying, "Alert! Human! Danger! Habitat destruction danger! Poisoning danger!" the prairie dogs just take notes on the world they observe around them. Like poets. Like scientists.

2.

Hannah's hospital bed is encased in plastic. So are her daughters'. They're all in the same room, quarantined, separate but together. Hannah tries to comfort them. She sings them, "You are my sunshine," but they can barely hear her through the plastic and over the beeping machines and really, only her hand on their backs would help but she can't touch them. Because she's contagious. Because her fingers are black. Because who knows how much sicker they can make each other.

3.

Pamfilo takes Filomena aside. Like really aside.

"We're falling behind."

"We're already behind. Look. I think I've found the cure." He pulls his tunic aside. Puts her hand on his crotch. I'm serious. I've been out in the country with all kinds of women. None of us is sick. Look at my groin."

He pulls his pants down. It's true. The only pustule is his protruding penis.

"Look at it. It's clean. I think what's really killing people is overzealous piety."

She looks at him. She's heard crazier hypotheses: that it's the cows, the children, the devil, trade with China, trade with the Mongolians, the yeast in bread, the cats, the witches, the beer, the butter. Everything good and everything bad has been blamed for the plague. This one, takes the cake. She turns to walk away but Pamfilo catches up.

"Even if I'm wrong, so what if I'm wrong."

"So it's not just me you want? You'll have anyone."

His pants are still down. She's never seen a penis up close before. So engorged.

"It only takes a couple of minutes. And then, you can't possibly die. Or, at least, you'll die happy."

There's a tree. She leans against it.

"Here step up on this rock. Bend your knees."

She hitches up her skirts for what is the first time, bends her knees like he says. Pamfilo has to rise up on his tiptoes to meet her but he finds her at her pustule-free place.

1.

Prairie dogs don't just chirp. They stand, they burrow, they run, they clean their whiskers, they rub their eyes. But they also jump-yip. Scientists are trying to discover why. In a blog post at the journal *Scientific American*, Bec Crew describes what prairie dogs look like.

> What it'd look like if you stuffed a chubby rodent full of pop corn seeds and remotely popped them, one by one. To perform a jump-yip, a black-tailed prairie dog will abruptly raise its chest up to at least an erect posture, sometimes bending so far back that it propels itself off the ground (the "jump" part), and lands on its butt. It will also raise its little arms up in the air for emphasis while emitting a high-pitched "wee-oo" call (the "yip" part).[5]

Scientists have wondered if the jump-yip part is an all-clear sig-

nal to the rest of the coterie. Or perhaps a sign that humans should bring them popcorn. But James Hare, associate head of the Biological Sciences Department at the University of Manitoba in Canada, noticed that even when a predator was present, meaning "not all clear" the prairie dogs still jump-yipped, meaning it was not at all clear.

What Hare hypothesized it meant was that the prairie dogs were sending an alert signal like an emergency broadcast system that clued the prairie dogs into who was paying attention and how much. "Just as group-living insects mimic each other's evasive movements and schooling fish avoid predators by copying their neighbours' behaviour, and emperor penguins behave like a Mexican wave to stay warm," the prairie dogs deliver a signal of who is paying how much attention. If someone is jump-yipping for you, you can spend some more time eating prairie grass. If you're a pregnant female, even though this may cause greater attention to be paid to the jump-yipper by the hawks, the wolves, the devil, the fleas, or the humans, the exertion of your fellow prairie dogs means that you have a better chance of forwarding the species. They do pretty well by all jumping around, so you can't really catch one out. Your whole collective town has a great chance of making it. Maybe they jump to shake the fleas off. Maybe they jump to warn the humans of the fleas.

2.

Hannah tries to tell the doctor about the trip to Flagstaff. They stayed in a cabin, near Kachina Village. Every day, she and the girls would walk down to the wash with their dog Ben. Early in the spring, water rushed through the wash. By June, the green, thick grass in the narrow fold between banks stitched the memory of that rushing water. Ben ran back and forth between banks, the long grass tickling his belly. She hadn't thought about fleas or prairie dogs or mice or rats. It's too hot in the valley to worry about those. Everything withers.

3.

In the countryside Palmpino ended up living for only a few short weeks. Filomena and Palmpinea moved into the cottage together. After Palmpino died, outside, where they left him, they dragged his body off to the sexy river. The river, bulging in springtime, took Palmpino's body away. With it went his buboes. The fleas. They must have followed him, as must have done the rats. The prairie dogs of old England? They stayed out of the house. So did the mice. So did the fleas. Filomena and Palmpinea were meticulously clean. They sprayed lavender oils in the corners. They covered themselves in peppermint. They, in the night, lying together in the same bed, spread the juice of daffodil petals between the folds of their skin. They didn't know anything, so they tried everything, and, in this case, everything worked.

1.

Fleas jump. Prairie dogs jump. Palmpino jumped on the chance to either save himself or throw himself off the cliff of god-sanctioned pestilence. Like the bacterium *Yersinia pestis*, he was an opportunist. Filomena and Palmpinea left town, leaving the bodies behind to speak for them. The specific message cannot be decoded. Women survived in greater numbers then men? Maybe. If they listened to each other. If they had avoided specific physiological stress prior to this wholly colored black stress generally.

How do you say goodbye? You can't. You take your posies and go. You cover your mouth and hope the researchers are wrong and the countryside is the place for you. You see the prairie dogs on your way to the cottage. You can't hear them as they point out your once-white shirt. They may be judging you but at least they're not pointing out your buboes, which, even if they could say it, they wouldn't.

2.

As Hannah's body withered away, so did *Yersinia pestis*. As the streptomycin percolated through her blood stream, Hannah stopped withering. Tiana responded well too, to the antibiotic. Kait-

lyn they diagnosed with pneumonia, treated with a different antibiotic. The CDC was not sure if this was a weakened plague virus or if plague has just become easier to treat. Maybe Kaitlyn, Tiana, and Hannah would have lived anyway. Perhaps, as some studies show, they were of the same hearty stock that survived the plague and went on the live much longer lives than people lived before the plague. Perhaps the plague was one big turning point and those who lived sent their offspring off with inherent plague-tackling immune systems. Maybe it really was just the antibiotics. Maybe the prairie dogs themselves have learned to communicate better. "Here comes that dude in the yellow shirt. Let's keep our fleas to ourselves today." Too bad they didn't see Hannah's dog Ben coming. Too bad it wasn't the doctor didn't believe Hannah about her armpits feeling like she was carrying bowling balls underneath her thin, not-yet-blackening skin.

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The *Arizona Daily Sun* sends another alert, alert. I can't tell how seriously to take it. I take my dogs on a walk and try to talk the prairie dogs into talking the fleas into avoiding us. I see one standing above a hole. They so distinctly match the dirt. If they wore yellow shirts, maybe I could tell them apart. Sometimes, there's a fat one but for the most part, the prairie dogs pop out of their holes, squeak, chirp, and laugh, then tuck into the hole to pop out somewhere else. Or maybe it's another prairie dog. The first one says:

"Look at that woman, walking her dogs as if she owns the planet. Does she know how many billions of fleas there are? How many millions of us? There are more microorganisms on her body than there are humans on the planet. She can probably name only one."

"Plus," says the other prairie dog, "why would she wear that blue shirt with those yellow pants. She's already short. Now she just looks like a beach ball."

"Yep. Striped."

I look at the prairie dogs dumbly. I feel sorry for them and their could-be bulldozed towns. Pity runs in all directions. Sometimes I even feel sorry, as I pin one between my fingers and crush its exoskeleton like a sunflower seed, for fleas. Fortunately, I avoid feeling too bad about killing this specific flea, because, as far as I know, fleas have nothing to say.

Notes

1. Sean Martin (2001). *Black Death*, chapter 2. Harpenden, GBR: Pocket Essentials. p. 26.

2. https://australianmedievalists.wordpress.com/2014/11/21/dining-with-death-an-exploration-of-food-culture-during-the-long-black-death-1348-1771-part-ii/.

3. http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever#sthash.0KM8lE1H.dpuf.

4. http://www.historytoday.com/ole-j-benedictow/black-death-greatest-catastrophe-ever#sthash.0KM8lE1H.dpuf.

5. http://blogs.scientificamerican.com/running-ponies/catch-the-wave-decoding-the-prairie-doge28099s-contagious-jump-yips/.