

## ANIMAL TESTED

By Leonid Bershidsky

### Crows 1

There he goes again: flutters his wings to get back to the base of the tall golden cross, clasping – what, some kind of disposable plate? A plastic tray? A jar lid? It's impossible to see from down here; gains a tenuous foothold, still not letting go of that thing with the other claw; now, both feet in the plate, lid, whatever, sleds, surfs – no, snowboards, really – down the dome's gold plate, awkwardly like a rank beginner on some Bulgarian slope, but then what use is technique to him -- he can fly!

And now a second one, this one hasn't thought to bring a surfboard, but watch him, he's about to do it on his ass! And a third one has joined the fun now! They're all scooting down the gilded central cupola, ignoring the four silver-colored ones on the corners. It's a sunny day. "I'd have picked that one, too," Coach thinks, surprising himself.

"I need a pair of field glasses," Coach tells the bodyguard without turning his head or raising his voice. You never have to repeat anything to these guys. The major doesn't go off but murmurs into his mic. Soon, hurried steps echo across the square: Here come the field glasses.

The crows are still at it, and Coach can see more clearly now what the first one, that started the whole thing, is using for a snowboard. It's not a jar lid and not one of those paper plates one gets from a hot-dog stand; it's an opaque, shallow plastic cone with a black rod in the middle. It looks like the business end of a parabolic listening device, Coach realizes. But even with the field glasses, it's impossible to tell.

"Fetch the commandant," Coach says. Nothing happens for no reason in this hateful, ugly, ghost-filled, medieval place, and if the commandant doesn't know the reason, it's his responsibility to find out. A crow using a parabolic reflector to skate off the dome of St. Michael's?

"Ever seen crows do this, General?"

The commandant's eyes follow the Coach's pointing finger.

"Only every day," he replies. "Or at least whenever the weather's nice. The domes light up and the crows just can't help themselves. The priests have been complaining, apparently the crow is an unclean bird, says so in Leviticus, I think they said. But I can't very well shoot them for doing it – would you want me to shoot up the cathedral dome? And anyway, Our Lord does also say in the gospel that the ravens do not sow or reap, yet God still feeds them."

"I'm sure you can argue scripture with the best of them, commandant, but I think I agree with the priests here. The symbolism is unhealthy," Coach says, holding back the question that really bothers him and curious what else the commandant knows about the crows.

“They’re just playing, you know,” the general says. “I’ve asked some professors from the university, ornithologists, to explain this to me so I could have a substantive conversation with the priests. And they wrote back – the bibliography at the end was this long – saying corvids, that’s the Latin for crows and ravens, are playful by nature and big show-offs. They’ll lie down on their backs with a twig in their claws and slide down an iced-over roof. They’ll swing upside down from a branch. And if one starts it, the others just have to try it, too.”

Well, at least nobody has been caught with their pants down, nobody’s neglected their duties, Coach thinks. Meetings have been held, reports written, conflict mitigation attempted. He hands his field glasses to the commandant:

“See that big guy flying up to the base of the cross? What’s he carrying?”

The commandant throws back his head, stares at the crow through the glasses. Coach is in no hurry; the Family Values Council can wait.

“Some kind of spinning top?” the general offers lamely.

“Look closer,” Coach says patiently. “I’m sure you’ve seen these before.”

“Well, it does remind me of... Ahem...” the commandant stalls.

“A parabolic microphone?” Coach suggests, not really caring if the general’s thinking goes in a similar direction. “Do you think I’m into bird-watching? What I’d like to know is where the bird got that thing. You don’t keep them around, do you?”

“All kinds of listening devices are explicitly banned in the burg,” the commandant says in a suitably indignant tone. “But perhaps it’s not even a microphone.”

“There’s only one way to find out,” Coach says.

Only Coach’s bodyguards are permitted for remote communication in the fortress. So the commandant salutes and trots off to find a sniper capable of shooting down the crow without damaging the dome. He must move fast, before the surfing corvids get bored and fly off.

Coach strolls around as he waits, glancing up from time to time to make sure the crows are still there. The little square is surrounded by stately churches, their domes sparkling. There’s no one around besides him and the guards, who keep moving to get out of his line of sight: He likes them invisible, prefers to feel their comforting presence. When he’s out for these walks between meetings, the burg’s few visitors are kept away for security reasons. So many churches and no flock. No wonder: They were built because each of Coach’s medieval predecessors wanted to leave his mark on the fortress, not because there was much demand for God’s word on this island of quiet walled off from the chaos of the city. Coach feels his discomfort with the hateful asymmetry of the place rise to the surface. He wipes his forehead with a handkerchief, succeeds in not ducking when the shot rings out – that would have been unseemly.

The crow, the piece of plastic still in its claws, crashes onto the dome, slides, splattering gold with red, plummets onto the roof out of sight behind one of the side domes. Coach thinks he hears a thump, then heavy footsteps up there. A soldier emerges from the cathedral, carrying the dead crow by the neck. No sign of the plastic cone.

“Where’s the thing it had in its claws?” Coach asks the soldier, who opens his mouth but makes no sound.

“How could you miss a big object like that? It’s no needle in a haystack. Go back up there and look,” Coach insists. “You may leave the crow.” Soon heavy boots are heard again on the roof. The soldier returns shamefaced, looks down at the bloodied bird on the cobblestones. Coach wastes no more words, turns on his heels and walks away.

The crows on the dome have stopped their ass-sledding. They’re beginning to circle down lower, spiraling around their dead ringleader.

## **Rats 1**

“Good morning, Hendrix,” Lex’s greeting is matter-of-fact, not too cheerful but friendly enough. Rats don’t expect you to fraternize with them, Lex knows, but they do appreciate even, professional treatment – just like people, come to think of it. When working in the lab, Lex often remembers the visiting Canadian professor whose lecture she’d heard at the university. “They’re just little people without socks and boots,” he’d said.

Lex allows Hendrix a minute to get used to her smell and the rustling of the lab coat. Rats can’t see very well, they are listeners and sniffers. She lifts him gently, cupping him in both hands, puts him in the crook of her left arm – they’re snugglers, too – then picks up the syringe with a quick, fluid motion. The needle instantly finds the spot she’d mentally marked on the back of Hendrix’s thigh when she picked him up; intramuscular injections are especially painful for small animals but Hendrix barely twitches – Lex has the lightest hand at LeviGen, is known for it.

Time to move on to the next cage, but Hendrix has kind of grown on Lex over the last month, and she makes an exception: lowers him into her coat pocket, where she’s stashed some cereal.

Back in his cage, Hendrix rises up on his hind legs and holds on to the bars with his front paws. He gives Lex a long look, then lets go of the bar with one paw and – did he just wave? Lex blinks, turns away quickly, goes back to work.

Strictly speaking, Lex doesn’t have to handle the rats herself. It’s not common for a researcher, let alone a senior one, to do it. And Lex is way too senior. When LeviGen, a big player on Atlanta’s up-and-coming life sciences scene, snagged her from the university, it had to offer more than money; she got a lab of her own, a team of three, a chance to publish her work after the company vetted it for valuable IP. Lex isn’t a delegator, though, she’s always been hands-on. And moving from academia to the corporate world is not the same as

embracing exploitation. She was a little shocked at first by the backwardness of the culture – the company isn't even 20 years old, after all -- and while not conflict-prone by nature, she sees no need to adjust, either. The world is changing and people like her are brought in to speed up the change.

So they split up work in the group according to what each does best, regardless of seniority. Dylan looked relieved when she said she'd be treating the animals: He's far more comfortable with data than with anything living and breathing. Jain seemed a little reluctant – he'd have preferred to have a hand in the entire process -- but he's teaching himself to be humble, so he acquiesced. Hua didn't care one way or the other; she makes no secret of playing to win and taking the shortest path to victory, and there's no time for back-and-forth on that path. Alex hopes she can teach her by example to accept that happy rats mean cleaner experiments: Stress tends to play havoc with treatment outcomes. Dangle a subject by the base of the tail – standard procedure left over from a less humane era -- and you might as well inject him with water as with the latest preparation.

As Lex turns to the next cage, Gloria, with her light brown hood and dainty little fingers, faces her, striking the same pose as Hendrix. This time there's no mistaking the movement of her paw. A deliberate hand wave, not some kind of accidental twitch.

Holding her breath, Lex leaves Gloria for the moment and turns to Rhett, the beau with shiny black hood and whiskers. He's not the smartest of the bunch but the most playful: He always turns over to be tickled when she touches the nape of his neck and squirms with pleasure much longer than most rats would. Now, he waves to her, too, with a kind of gallant flourish.

There will be time to read up on this later, Lex tells herself. Rats develop complex group behaviors. There's no telling how they communicate at night, during their most active time. It could be a good idea to install cameras. And what if she's just imagining this, after all? A distressing thought.

Now, focus on the injections. Lex returns to Gloria's cage and picks up the rat a little more abruptly than she'd like to – careful now, one doesn't handle animals when off balance, but then, come on, this time it's their own fault!

As Lex picks up the needle, she has already regained her composure, and Gloria offers no more surprises. She accepts the shot and goes about her business in the cage. The gleam in Rhett's eyes has faded, too, he's even turned his back on Lex as she steps toward him down the line of cages.

In the pantry during lunch break, Lex resolves to find Alyssa. They're both in the affinity group, where Alyssa's vehement utterances strike Lex as a little old-fashioned, a bit 2018; it's as though someone still needed convincing about basic things – for example, the idea that discrimination could be positive when exercised to achieve equity. But then Alyssa is older, and Lex allows that someone who had to fight the equity battles in much tougher times might find it hard to believe that the good guys have already won. And who else would have an explanation for the rats' behavior if not a zoopsychologist?

As she tells her rat story, Lex cringes inwardly at Alyssa's worried mom look and wonders if empathy is her colleague's default state or default mask. There's no turning back though.

"They waved at you then – that all they did?" Alyssa asks. Lex listens for a hint of mockery but doesn't detect it.

"Yes, isn't that unusual enough?"

"I'd say," Alyssa isn't smiling. "You sure you didn't hear them say anything?"

"Come on Alyssa," Lex says. "I don't hear voices. No talking rats. I'm just sorry I didn't make a video of them waving."

"Have you taken any drugs lately?" Alyssa asks bluntly, as inappropriate a question as one can get from a colleague.

"What kind of question is that?" Lex bristles, sorry she sat down next to Alyssa with her tray. Read first, ask questions later, or this kind of bullshit is what you get.

"I don't mean to imply you get high at work, and I'm not playing mom," Alyssa replies, and there's an edge to her voice that makes Lex pay attention. "I'm asking specifically if you've taken any Ecstasy lately. MDMA, molly, mandy, whatever you call it these days."

"As a matter of fact, I have," Lex replies defiantly. "Went out dancing on Saturday and."

It's against company policy to use any drugs except cannabis, but she's not scared of being reported. LeviGen didn't spend three months courting her just to throw her out for taking a pill at a club.

"Well then," nods Alyssa, now the dispassionate clinician, not a worried auntie. "I was having dinner with some colleagues the other day and one of them talked about a case of MDMA-triggered lycanthropy."

She lets that sink in.

"Lycanthropy, isn't that, um, transforming into a wolf?" Lex asks, the half-remembered word clumsy on her tongue. "Like, when you're a werewolf?"

"To us psychologists, it's a delusion that involves feeling as though you've turned into an animal or seeing others as animals." Lex would have burst out laughing, but Alyssa still has that serious look. "Did those rats look like anyone you know? Did you perhaps sense that they were communicating with you as though you were one of them?"

"Thank you Alyssa, I learned something new today," Lex smiles; she'd had enough. "If I do get them on video, would you be interested in seeing it?"

"Sure, honey," Alyssa is the kindly auntie again. "And if they do say something, I'd be interested in hearing a recording, too."

Lex bursts out laughing. This hasn't been particularly useful, but she shouldn't have underestimated Alyssa's sense of humor. Or, come to think of it, told her about that pill.

## **Dogs 1**

The fourteen chihuahuas, puppies and their parents alike, rush to meet Rainer Radtke like a gang of mini-skirted teenage girls in a black-and-white Beatles documentary. A couple of them start licking his sneakers, and when he squats, other beasties start jumping up and down to try and lick his face, even though they should know they can't jump that high. They're making no sound throughout, suggesting the black-and-white movie might predate Beatlemania – anti-bark collars make sure of that, humane citronella spray ones, of course, not those abhorrent electric torture devices.

“Thank you, thank you,” Rainer the rock star says in English, relishing all the attention. “You're the best audience ever. I love you, it's good to be here.”

His stage is the vast top floor of an old half-timbered farmhouse built for a multigenerational extended family -- the attic, strictly speaking, but with plenty of space under the steeply sloping roof even for someone as tall as Rainer to stand up straight. It's not a brightly-lit stage though, with just enough light coming through the tiny windows in the roof for Rainer to see the chihuahuas in near-black-and-white.

The dogs don't appreciate the all-day dusk, Rainer knows, but he can't let them have more light – one has to be careful even in this half-dead town, even in a house as secluded as this one, and even despite the appreciative discretion of the drinkers at the officially nonexistent pub downstairs. At least the little darlings are never alone all day – when he's at work in the city, Ziska is usually here, taking care of pub business.

Incredibly licky beasts, these chihuahuas. Rainer had never imagined a creature this small and so, well, non-anthropomorphic could be such a passionate kisser. Pick up any of these, no matter what gender, and it would try to stick its whole little face into your mouth and try to find your tongue with its own tiny darting one. It's not unpleasant, just weird, and it's more physical contact than Rainer wants or needs. But the pups' diminutiveness is an unbeatable advantage, Rainer reminds himself as he accepts all the love. Mastiffs or even spaniels wouldn't have been a scalable project, they'd require too much real estate, a place to stretch their legs, regular walks – and all of that is out of the question.

Rainer disengages gently from the lickens and begins stuffing a garbage bag with the soiled diapers that the pups had so quickly learned to use. Then he'll have to mop up and sweep up where they'd missed.

Rainer's family never had dogs, let alone bred them, and Rainer himself always preferred not to take responsibility for any fellow creatures (and no, he hasn't taken responsibility for Ziska either, thought it could be construed that he's supporting her). Yet he works with a practiced economy of movement, feels no disgust, sidesteps the frolicking pups with the grace of a salsa dancer: He knows he's good at this, just as he was good at everything he'd taken up

before, from the piano to marathon running to coding. Average achievers don't end up at the EGAL.

Ziska's heavy, slow steps make the ancient stairs groan. Rainer wonders if she's wearing her rubber boots inside the house. "Hey," she says as she emerges into the attic (Rainer casts a downward glance: slippers). "Didn't expect you this late. Everything all right with you? At work and so on?"

"Yes, thanks for asking," Rainer doesn't look up at her: He's focusing on the job at hand. "Mind if I stay the night?"

"It's your house," she shrugs.

"Only technically," Rainer says. "It's your household."

"Right, we're a little family of fifteen," she smiles. "Almost sixteen."

Rainer ignores his cue to inquire after the baby, which is probably already kicking like crazy. He assumes Ziska's got that part under control and needs no input from him. He's done with the diapers now; the used ones are in the biodegradable plastic bag, each of them neatly folded to save space, the tiny turds shaken off into a separate paper bag.

"Are you not changing these things out of principle?" he asks. "You shouldn't be nauseated at this stage."

"Still, I am," Ziska pouts. "And it's hard to bend down. I feed the puppies and play with them though. Scratch their tummies. You can't ask me to do much more for them."

"You could end up drowning in shit if I'm gone for a few days," Rainer says, as a practical observation rather than a reproach.

"I was kind of drowning in shit before I moved here," she no longer seems offended. "This is nothing by comparison."

Rainer smiles. "I'm glad you feel that way. Well, I need to get some sleep. We should discuss next steps, but that can wait."

"I baked a plum cake today," Ziska boasts. "Put on my flowered respirator and clean overalls and took the cake to Frau Lenz next door."

"That nosy old bitch?" Rainer grumbles. "Are you trying to draw more attention?"

"Quite the opposite. An antisocial nerd like you wouldn't understand," Ziska's pout is back, but this time only in jest, Rainer guesses. "She didn't invite me in but I could see it in her eyes that she was pleased. If she wasn't wearing a mask I'd be positive she actually smiled."

"She'll still turn us in if she sees the tiniest benefit in it," Rainer is still not sure the cake diplomacy wasn't a mistake.

“No she won’t, no way,” Ziska shakes her green-dyed mane. “We get half the town at the pub, they’d run her out if she did. Speaking of the pub, don’t you want to come down? We’re about to open.”

“Not unless you want me to haul some kegs.”

“I can handle it,” she says, contradicting her earlier complaints about bending down. He heads for the stairs without remarking on it.

“Rainer,” she says. It’s impolite not to face her.

“Don’t be so uptight,” she’s smiling mischievously. “You’re part of the household. Pater familias, one could even say.”

“Don’t even think about it,” Rainer smiles in return, though he doesn’t feel like smiling. He walks down the stairs without looking back, determined not to be provoked or manipulated.

## **Crows 2**

Coach is not naturally a man of routine, but he knows the value of following a firm schedule, and he’s sure everyone would rather wait for him than have him cancel an appointment. That can sometimes keep him working well into the early hours, but nobody complains, and things get done.

The Family Values Council has been waiting for an hour. Coach walks in briskly – it’s beneath him to look apologetic -- and everyone stands up, their faces featureless pink blobs. That’s how Coach has learned to see them in meetings, a useful habit that allows him to peel off all the emotional baggage that comes with focusing on people’s faces. An ugly speaker has a harder time selling a good idea, a pretty face can distract and lead to badly-thought-out decisions. Coach had learned to blur faces as an athlete; you zero in on an opponent’s moves, read the beginning of an attack in the minutest tension of the muscles you’re watching. Faces are designed to deceive, bodies never lie.

He circles the table quickly, shaking hands with the men and bowing slightly to women, who don’t, and shouldn’t, expect a handshake. Man blob, woman blob, pump, nod.

“I’m not here to make long speeches, and as you may have noticed, I’m behind schedule today,” Coach starts speaking before his bottom hits the chair, signaling that the meeting will be brief and speakers must make their points quickly. “As you know, the subject of today’s meeting is a worrying uptick in divorce rates, to 1.1 per 1,000 population from 0.9 last year.” He’s got a photographic memory for numbers, and if he gets one wrong, the statistical agency will figure out how to explain the discrepancy. “This is out of line with our promises to our citizens, who are overwhelmingly in favor of strong families and want the state to help families stick together. I’d like to hear your views of the reasons and your proposals on reversing the trend.”

A woman blob has the floor first and Coach tunes her out. He doesn’t really want to hear any views, reasons or proposals: Reading about these people’s positions, each summed up in one



paragraph, was part of Coach's morning preparation, the most important part of his day. The draft resolution was in the folder, too (he prefers to work with paper, the old-fashioned way). There's very little people can tell Coach that he doesn't expect them to say. When the woman blob is done talking, Coach responds with a couple of sentences from the resolution that loosely agree with the paragraph on the woman blob views. The purpose of the meeting is to make the day memorable for the assembled council members; he knows they'll proudly tell their families and friends about their moment in the spotlight and Coach's benign reaction.

A man blob is up next. Coach suppresses a yawn and starts thinking ahead to his next event. Then a rare thing happens: The man blob says something that gets his attention.

"... a dominant culture alien to our tradition, a cuckoo culture, so to say – one that considers progeny a burden, an imposition. Traditionally, however, we're a crow culture. Young crows stay with their parents for years despite being able to fly away, breed and start families of their own. Instead, they help their parents raise their younger siblings. By helping young people leave the parental home – for example, by offering cheaper mortgages to young people or study opportunities away from their home regions – we are fostering a culture that makes it pointless for older couples to stay married, and many of them fall apart once the young have flown the nest. Multi-generational families..."

Is this a coincidence or some kind of sign, Coach wonders as he tunes out the man blob's droning voice again. What's with the crows? The commandant, the priests, even the people he's picked as authorities on family values have suddenly developed an interest in crows, which, for their part, have picked a place right under his nose to show off with a forbidden listening device. Neither of his morning folders – not the domestic briefing and not the foreign one – has ever contained any mention of crows, he's sure of that.

When the man blob falls silent, Coach checks the list before him for the right form of address. The professor is probably expecting the usual vaguely supportive answer – the right people have already vetted his proposals for inclusion in draft legislation, but Coach hasn't decided yet which of them to approve – yet gets a question instead.

"I was intrigued by what you said about crows, Professor," Coach says. "Ornithology is rather far removed from your field of study, or am I wrong?"

"You're absolutely right," the professor is visibly flattered by Coach's hint at familiarity with his work. "I didn't draw that analogy as an academic but rather as a family man. My son – he's just turned eighteen and wants to be a veterinarian – told me this story of crows. I must admit I didn't take pains to verify it, mainly I was just touched that my son was not eager to fly the nest, that he felt at home with my wife and me at an age when many kids, alas..."

"An interest in crows is unusual in an aspiring veterinarian, too," Coach says. "Isn't that bird a kind of flying rat, a vermin to be chased away?"

"My son has his own ideas about that," the professor replies, basking in the unexpected attention. "He and his friends appear to have taken an interest in these birds lately and they

find much in their behavior that is, ahem, how should I put it, relatable, perhaps even worthy of admiration.”

“The priests, I hear, hold the opposite opinion,” Coach says. “Perhaps you and your son ought to talk to a priest. Have you been to confession lately?”

“I, ah,” the professor is flustered. “I go quite regularly myself, but you’re right, my son and his friends ought to see the inside of a church more often perhaps. They are as steeped in our traditional values as anyone but, you know, eighteen and interested in the natural sciences...”

Coach nods to the redder blob and turns to the next speaker without responding. He has a nasty feeling about this crow thing. It’s the nagging sense of having missed something, of being kept out of the loop.

## **Rats 2**

Cheol’s face is serious as Lex takes her seat next to him. The office is designed to make the 20<sup>th</sup> century across-the-desk-from-the-boss setup impossible, but Lex still feels as though there were a desk between them. It’s an unusual feeling: Cheol’s never been anything but friendly and encouraging.

“How’s the Ad-36 project going?” he asks to start the conversation. She knows this is not what it’s really about: He’s in the Ad-36 Slack group and she knows he’s up to speed. So she keeps it short: “The peptide we’ve been testing isn’t working as well as we’d hoped, the side effects are still pronounced, but we’ve got plans B and C and D if necessary, so we’re not despairing yet. We are still likely to move on to administering a compound orally before the end of the year.”

“Good,” Cheol nods. “I never expected you to find a solution this quickly. This is a marathon, not a sprint. Tell me something, do you feel you have to work more because the results are not very encouraging so far? I noticed you left the lab after nine p.m. last night.”

“It’s not that,” Lex shakes her head. “You know how it is, sometimes if you take a break you lose the thread, and then it takes hours to pick it up again.”

“I think you’re working yourself a little too hard,” Cheol says. He’s notorious for working 24 hours a day; is it his reputation or his pedantic, overlearned English that makes him sound a little insincere?

“What gives you that impression?” Lex asks, trying to act more relaxed than she really is.

“You look a little tired. Aren’t you spending a bit too much time with those rats?”

By now Lex has an inkling where this is going, and it’s not in her nature to pretend she doesn’t, but she wants him to be more explicit.

“I do a much of the animal handling because it’s my chore on the team,” she says. “You know I’ve done a lot of animal testing, I’m good at keeping the rats stress-free.”

Directness is not Cheol's thing. He fidgets in his seat and wipes his palms on his trousers as he looks for a way to put it to her.

"I've known some researchers who come to see the test animals as their pets," he says. "You know how it can be: in the lab at all hours, social life nonexistent or messy, and here are these nice little creatures you interact with every day. So you develop an affinity with them. Not that I know anything about your social life," he adds hastily, and she can sense him biting back the rest of the sentence that probably would have gone something like, "You're a good-looking young woman and you're entitled to have fun." "In any case, if you're getting a feeling that the rats are developing an affection for you, or you for them, it may be a sign that you ought to hand over that bit to another team member."

"You've never told me before how to distribute work within the team," Lex has had enough of this. "Is there a specific issue you'd like me to address?"

"I'd like to make sure no issue arises," Cheol answers smoothly. "Overwork is a dangerous condition to ignore. In our field especially, people turn too easily to substances to deal with it, and then before they know what hit them, they're seeing things, maybe hearing things, and losing their touch as researchers."

"I'm not overworked and I'm not 'turning to substances'," Lex keeps her voice steady. "Much less 'seeing things or hearing things.'"

It would be out of character for Cheol to say in plain English what he thinks he knows. If Alex wants to be honest with herself, she must admit she writes that down to his Asian mentality. If he were a Black guy, he'd have come right out with it and they could have had some laughs together about the hand-waving rats. She chases away the thought and even blushes slightly, not enough for him to notice: what can be uglier than hardcoded stereotypes?

"That's good," he says, though his tone makes it clear that he's not convinced. "I just want you to know that my door is always open. If you ever feel stressed, or your hours get too long, we can always discuss a short vacation or perhaps additional resources. Your project is a prominent part of our business plan. The costs are below budget so far this year. No need to drive yourself too hard. You're doing great."

"I appreciate it, Cheol," Lex forces a grateful smile. Of course his door is always open – to make sure there are witnesses in case he's accused of doing something inappropriate. Otherwise – she just feels it – his hand already would have been on her knee. That generation's dirty habits die hard. Or is she just prejudiced against him because of who he is – an older Asian man in a position of power? Now she's angry at herself more than at Cheol, and she wants the wretched conversation to end.

"Well, back to work then," Cheol sighs. "Think about what I said concerning the rats."

"The rats and me, we're not going to disappoint you," she turns on her full-voltage beam as a consolation prize.

“I know you’re not,” he slaps his hands on his knees and gets up. The meeting has required all of her composure – it’s the first unpleasant one she’s had at LeviGen, and it has popped her bubble as the research department’s pampered prodigy. But she also feels stupid for having talked so carelessly to Alyssa. Time she finally started thinking and acting like an adult. She’s heard and read enough about corporate life to be prepared, so why would things be any different for her?

Which means she’ll have to keep her cool, fight her natural inclination to blurt things out, keep her cards close to her chest. And figure out alone what’s up with the rats. Whatever Alyssa or Cheol may think, overwork and MDMA have nothing to do with this.

## **Dogs 2**

Today is the A Team’s weekly in-person day, office presence required because the work regime and happiness models have determined that the combined benefits to psychological welfare and productivity outweigh the health risk at this frequency and team size. Rainer wakes with a head that feels full of wool yarn. He’s dreamed of little pink tongues, licking, darting, trembling, touching him wetly where it tickles, where he doesn’t want to be touched. He and Ziska eat their muesli in silence, not looking at each other as if they’d done something shameful during the night. Rainer always gets this uncomfortable feeling when they’re rattling around the farmhouse in the morning, but there’s nothing for it. He can’t leave her alone with the dogs for too long: Who knows what she might pull if she suddenly feels abandoned and insecure.

He does the dishes – there aren’t enough for the pub dishwasher -- waves to Ziska half-heartedly and gets into his VW Tesla 7 to drive to Berlin. The hundred-year oaks on both sides of the country road form a solemn vaulted corridor. Rainer slows down instinctively, floats through the dreamy tunnel for a while as though still asleep, then steps on the accelerator once the oaks are behind him. The Seven could have gone 250 kph if not artificially throttled at 130, still 40 kph above the limit set for the major roads by the safe mobility model; the car is three years old, and the limit was higher when it was built. Rainer has read that VW sells unthrottled cars in some markets with inadequate modeling, and he knows for a fact that even here, the police get them from the VW Tesla factory south of Berlin, but he’s never felt jealous, unlike some of his colleagues at the EGAL. The slower you go, the more you notice. Inputs for the happiness model, grist for others’ mills, images to enrich his introspection.

The city has long since woken up. There’s loud construction work going on along most of his route: the city government is building the north-south axis, a visionary 20<sup>th</sup> century project abandoned after one of the era’s pointless wars and revived by the EGAL a year ago after a thorough analysis of all the short-term and long-term effects.

Driving by a group of laborers digging around in the debris of a torn-down building, Rainer can’t avoid feeling a stab of pain: His old building, too, had to come down this year, no trace of it remains near the south end of the new avenue, just a heart-wrenching memory survives

of the moldy, sprawling second-floor apartment in the backyard of a columned founder-era building. But he's not going to dwell on it, any of it. He hits the accelerator to get some tangible evidence of moving on and feels the pedal push back: One can't go over 35 kph in Berlin, a limit set so that cars can still go faster than most bicycles, giving people a reason to splurge on them. Rainer actually remembers the debates about the correct threshold, a data scientist's nightmare given the contradictory poll results.

An ancient, pre-VW Tesla 3 brakes next to him at the traffic light. These old lemons had to be retrofitted with modern speed limit systems after the transportation models were tweaked – all at taxpayers' expense. But is the blue-haired middle-aged woman at the wheel actually happy about it? The insolent cyclist knocking on the old Tesla's window now clearly isn't happy: the car's right-side wheels are infringing on the bike path by about 10 centimeters. And the cyclist didn't sell his green credits to the likes of the blue-haired Model 3 driver in order to be run off the road!

We'll know for sure at some point how happy everyone really is, Rainer thinks – once the EGAL gives up on the antiquated polling tools and moves on to regular brain scans. The deep learning models to process the data are production-ready, and he's done his part. Not that *he's* happy about it, about any of this, really. Including the north-south axis cutting into the city's flesh like a dull knife.

He arrives half an hour early as usual, and, as usual, finds the underground car park almost full. Many of his colleagues look forward to the in-person days, and even if he doesn't, he'll never show it. He finds a spot for the Seven in the far corner of the basement, next to the chock-full bicycle storage, and jogs up the stairs to the ninth floor.

### **Crows 3**

"I told you I didn't want to micromanage the fortress," Coach looks up, irritated, at his secretary, who immediately goes into a kind of obsequious half-bow. "That's the commandant's business. He's a lieutenant general and he's perfectly capable of dealing with some darned bird's funeral." Coach never curses, and he's demoted senior officials careless enough to utter an obscenity within his hearing.

"This request comes from the commandant, actually," the secretary's smooth voice has always slightly irritated Coach but also, in a peculiar way, helped him keep his emotions in check. "A mere lieutenant general doesn't have the power to order a burial in the fortress. That's your prerogative. Otherwise you'd have my office cat or the commandant's mother-in-law buried in the hallowed ground."

"The priests should decide on this," Coach winces. "And I doubt they'd allow a funeral to be held for a bird. That sounds pagan, like something out of ancient Egypt. Falcon mummies and all that."

"This one was a buzzard," the secretary corrects pedantically. "Falcons were losing the war to the local crows. Decommissioned back in March. They're experimenting with polar owls now, too. And as for letting the priests decide, I can draw up a decree, but there's the

fortress's traditional secular status to consider. It is your state residence and an elite military installation, after all. The priests only run the churches, though of course they'd be happy to get extra powers."

The secretary is a top constitutional lawyer, seconded to Coach by the Legal Directorate. The last thing Coach wants to do is to mess with tradition. But right now, something bothers him about this buzzard burial business.

"So why do they want the buzzard interned in the Kremlin? It's the first time I've seen such a request. I'd forgotten the commandant's service even kept birds – come to think of it, no one ever told me about it."

"They have to, otherwise the crows would have the run of the place," the secretary answers. "They've always been a nuisance, but things have gotten worse in recent months. This buzzard, Alpha, was a veteran, she's caught hundreds if not thousands of crows in the 20 years she'd been with the commandant's office. Superior to falcons, owls, every kind of bird they tried. Very territorial though. Can't have several of them hunting at once."

"And now she's dead of what, old age?"

"No, and that's exactly the point," the secretary's voice and his entire body language express admiration with his boss's ability to trace the shortest interrogative path to the essence of the matter at hand. "Killed in action. A few days ago, a soldier shot a crow that appeared to be carrying a suspicious object. Soon there were dozens of crows circling low over the spot where the dead crow lay. So the commandant's aviary squad unleashed Alpha on them. Just the sight of her used to work wonders, you know. And then..."

"There were too many of them?" Coach guesses.

"Exactly. When the commandant's people saw what was happening, it was too late to do anything except open fire. And you were in the fortress just then, for the Family Values Council, and if they'd started firing, it could have been interpreted as an emergency, so under the circumstances, they just let things happen. Alpha is, strange as it may sound, kind of a fallen comrade to them. Hence the request in your folder. They want to bury her in a closed coffin. The crows did a lot of damage."

Now Coach remembers: the crows sledding off the dome, the parabolic mike (never found, come to think of it), the hapless soldier, the commandant's babbling about priests and ornithologists. He starts to ask the secretary why this wasn't reported to him at the time, then thinks better of it: Of course nobody thought this important enough to bother him. The funeral request was merely a matter of tradition. Nothing that would warrant an inquiry or even a dressing-down.

Coach's pen hovers over the request. "I'd like to attend," he says, the pen's tip still an inch from the paper, so the secretary can only conclude this is Coach's condition.

"I'm sure they'll be honored," the secretary says. The pen hits the paper.

“It’s not every day that the garrison loses someone in action.” The sarcasm in Coach’s voice isn’t meant for the secretary: Coach is just venting. “I want to talk to the prior of St. Michael’s,” he adds. “Soonish. As soon as you can find a gap in my schedule.”

There are, of course, no gaps in his schedule. But it’s the secretary’s job to create them. Coach is cooperative – he’ll work through the night if need be, as long as he understands what purpose each meeting serves.

“I see one at 1900 hours,” the secretary checks his notebook; electronic devices are banned in the residence. Coach has a meeting with the CEO of IDEX at 1900, but the arrogant techie can wait; also, evensong is held at 7 p.m. at St. Michael’s and it should pull the priest out of his comfort zone to have his schedule disrupted like this.

“Don’t they have a service at St. Michael’s at that time?” Coach frowns. He’s not worried about the IDEX meeting, either.

“I think it’s at 2000 hours,” the secretary keeps a straight face.

Coach knows the game the secretary is playing. He gives it a moment’s thought and decides to let him.

“He should be back by eight,” Coach nods.

### **Rats 3**

When Lex comes into the vivarium, Hua is already there. She’s got Rhett out of the cage, old-style, by the base of the tail, and seems about to give him a shot while holding him like that.

“Morning Hua,” Lex says loudly. “Mind telling me what’s going on here? And put down that rat please, can’t you see he’s scared out of his wits?”

Hua complies and looks up calmly at Lex. “Cheol told me you needed help with the animal handling, to free you up for more important work,” she says. “We’ve been treading water for some time, we need a new approach. Not the best time for the team lead to be giving shots to rats, Cheol said.”

“I assign work on this team, not Cheol,” Lex says sternly. She’d preferred to think they’d agreed on the division voluntarily, without any pressure on her part, but now she feels she must assert authority. That, however, gives Hua an opening.

“He didn’t assign it,” Hua says. “I ran into him in the hallway and he asked how things were. I said we were making progress, and then he just offered some advice, said I should help you more with the chores. And since you said the division of work was voluntary on our team, I decided to do what Cheol suggested.”

Lex bites back the first five retorts that come to mind. It wouldn’t do to lose her cool with a subordinate now that she’d decided to be careful and play the corporate game like an adult.

“I appreciate your help,” she says. “And I’m sorry if I sounded irritated. I guess I just reacted to the way you were holding Rhe... the rat by the tail. We need to talk more about animal handling procedures. Stress can ruin our results and set us back when we can’t afford it.”

“Human patients will often be stressed, too,” Hua is unusually stubborn today, and her eyes flash with a conviction she rarely displays. Lex wishes she knew what Cheol really told Hua – but perhaps they hadn’t even needed to say anything directly, both of them being... Lex interrupts that train of thought: no, she won’t go there, she won’t submit to prejudice.

“We need a more effective peptide,” Hua continues. “Something that has lighter side effects regardless of whether the rats are stressed or not.”

“There’s no need to worsen conditions artificially, Hua,” Lex is actually relieved to be in a direct confrontation. “We may miss our effective molecule if the test subjects are uncomfortable – scared, actually. I know what you’re doing follows the old manual, but hey, times change, our practices should change with them.”

“I’ll do the rest of them the way you showed me,” Hua says, looking down now, a picture of coerced submission. This is not what Lex wants.

“I’ll do the rest,” Lex says. “You can go. Thank you – I know you want to help. I appreciate it.”

Hua just nods and strides out. Does she throw things when she’s frustrated, Lex wonders, or does she just let it simmer? Probably the latter – and then there’ll be an explosion someday that’ll shatter all the test tubes in the building.

Lex glances at Rhett, the sufferer for science, and has to shut her eyes before they pop open again. Rhett is doing a kind of Charlie Chaplin routine in the cage, some comic pantomime, rubbing his ass with his paw, limping around a little on his hind legs, rolling his eyes. Then he drops to the floor, rolls over on his back, looks dead.

“Rhett!” Lex calls out, runs to the cage, pulls him out. Rhett’s alive, it was all an act, his agate eyes gleam at her, he squirms a little as if to say, “Scratch my belly.” Lex scratches, relieved for a moment, then stops abruptly. “What the hell was this, Rhett? What are y’all trying to pull on me? Am I going crazy?”

She’s addressing the whole row of cages now. It’s suddenly quiet in the vivarium, not normally a quiet place. The rats are holding on to cage bars as they peer at her. Then Rhett, on all fours again, slowly shakes his head. Or at least so it seems to Lex.

She looks around the cages and they’re all doing it, shaking their heads. Clearly a group behavior, like the paw-waving the other day. Is it possible, though, that they’re actually answering her question with a gesture they haven’t just picked up from humans – where, pray, and when? – but also learned to interpret?

“I need a coffee,” Lex says out loud. The rats are all going about their rat business again. She has to give them the shots first. She has high hopes for the new peptide – or had right until this morning. Now, she must admit, it’s not easy to stay interested in treating obesity. What



she's witnessing from these rats is nothing she's ever read about, and as a researcher, she really has no option but to drop everything else and pursue this. But rat behavior is not at all her field, and how can she go about a formal study? Taking this to the experts here at LeviGen is not an option: she's already tried with Alyssa, and look what it got her.

As she goes around the cages and gives her usual painless injections to the rats, who are behaving like normal rats throughout, Lex realizes she must go outside the firm to seek advice, a risky endeavor given her NDA. It's just a matter of finding the right person, someone she can trust. If the rats are trying to establish communication, she needs to figure out if anyone has done any related work, maybe tried to decipher animal brain activity, something along those lines.

As the spaceship-like coffee machine – one of the perks of corporate life she's come to appreciate at LeviGen – makes her a latte, she's already trying out Google Scholar searches in her head.

### **Dogs 3**

The elegant meeting room is all glass – the see-through walls that provide a postcard view of Berlin on three sides and open on the bustling open-plan office on the fourth, the lens-like round table, the no-slip floor with koi carps in glittering water underneath, the tall partitions between the seats which allow people to take off their respirators as if they were at their desks. The chairs aren't glass but they're transparent, too. Transparency had been the architect's tender-winning idea, an answer to conspiracy theorists' chatter of unelected power. Science has nothing to hide.

Rainer finds his usual seat, slaps his palms on the partitions left and right to greet his neighbors, who are already there – they return the gesture – and settles in to listen just as Ülker Dilaver taps the microphone (the disadvantage of all that glass is that a human voice doesn't carry without amplification).

“It's good to see all of the A Team here,” she begins. “The Angela Strain clearly hasn't affected any of you, hope your families are doing well too.” Rainer can see mouths murmuring affirmatively but hears nothing since no one pushes a microphone button for an audible response. Their office meetings are so like conference calls he doesn't see why they don't just confer remotely and give up the office altogether. Questioning attendance policy is above his pay grade, though.

“Anyway,” Ülker continues, “the vaccine rollout is running on the same schedule as last time around, since the infection curve has been almost identical to the Zarina variant's, and we're at” – she checks her screen – “29.6 percent of the adult population, run rate 86 percent.”

The run rate, Rainer knows, has barely budged during the last five vaccine rollouts, all of them done alphabetically, starting with those whose last name began with a certain letter (a different one each time to ensure fairness). The rotation has become routine, the vaccine approval process a formality now, the Logistics Ministry's bargaining with PharmaTech a

kind of Kabuki theater with all the moves known in advance. Rainer wonders sometimes who the 14 percent of vaccine-rejecters are – how many have medical counterindications and how many are conspiracy theorists. One can't get reliable data on that since the CTs often find medical excuses. Then there's Ziska, who's never bothered to find out when it was her turn and, besides, doesn't seem to have a last name; people of her generation hardly ever use family names, so that's not particularly unusual, but Ziska doubles down on her single-name identity by not having an ID card. This makes her hard to categorize – and Rainer knows there must be others like her.

Something else he knows is that the virus with all its variants is mainly a useful pretext for keeping the distancing rules in place. The public order and climate models show without a shadow of a doubt that the less people leave their houses, the lower the crime and emissions rates. Rainer's own happiness model shows that the less people come into contact with strangers, especially those from different cultures, the safer and thus the happier they feel – and that goes for immigrants, too. There's no nice way to communicate all these findings, though, so the medical state or emergency is there as a crutch, a useful, familiar routine.

Ülker doesn't have to mention the rollout stats, they're common knowledge. As it turns out, it's the 14 percent she wants to discuss again. It's grown into a bit of an obsession with her, in Rainer's opinion.

“86 percent only sounds impressive, but we appear to be in a rut,” she declares. “This is the sixth nearly identical wave, which is great from the logistical point of view but not necessarily optimal from the public health standpoint. Last week, we put some questions to the virological panel, and the consensus – I just received the report last night – is that the virus has mutated to survive at the current level of herd immunity and, if you'll excuse the anthropomorphism, lie in wait for us to become less conscientious about vaccination. On the one hand, it's good that we've found a kind of rhythm – a virtuous habit is a healthy response from society to the challenge it's facing – but we do want to be a little more ambitious. And that means achieving a 100 percent vaccination rate among those medically eligible.”

A mike-amplified cough interrupts her. It's Florian Diop, who runs the main actuarial model. Rainer has often envied him his job, the most secure on the team even compared to Ülker's: the model is so intricate it would take months for a successor to unravel what it does and how.

“We've been through this before,” he says. “The incentives for doctors were tweaked, what, eight cycles back? No one is going to risk losing their license and going to prison for issuing fake medical certificates to CTs, and with all the tests required and the fixed tariff on the exemption certificates, they barely break even on this line of work, so it's hard to get an exemption even when you're legitimately sick. My model assumes 14 percent medical exemptions. We're not looking to start a witch hunt, are we?”

Ülker is serene – she's used to Florian's demonstrations of independence, and she knows he'll end up welcoming the chance to tweak the model and make it even more complex.

“You’re right, Florian, the doctors’ incentives are probably optimal,” she’s careful to defer to him first, as any good manager would. “We can’t fail to notice, though, that almost the exact same percentage of the population – 14.8%, to be exact – is not involved in the green credit market. Can it be a mere coincidence? We might want to look in the direction of the general population’s incentives.”

Rainer knows where this is heading: More tweaks to the happiness models to make it unattractive to live as an overconsuming, virus-denying, science-mocking, model-defying, long-tail CT. The unvaccinated, the privacy freaks who don’t register on tracking apps, who don’t trade green credits out of principle even if they get them for free, who wear recognition-resistant clothing and make-up, the meat-eaters, the obstinate cash-payers, the weirdos from the religious and political fringes who are on preventive observation lists, convicts on probation – all of these antisocials are already banned from most public spaces. They can’t even walk into their local pub or visit a neighbor without getting a QR code from the government first, which they won’t do, anyway. Finding further disincentives, especially ones that make sense – that is, fit into the models, otherwise they’ll be rejected – has grown difficult.

Rainer’s mind begins to drift a little as the conversation seems to be headed toward a dead end. Nowadays, tweaking the models is a matter of curtailing the non-essential joys available to the general population: The average person will find ways to compensate for the loss, but the antisocials’ lives will only grow sadder. Since he’s been running a happiness model, Rainer has made a point of looking for incentives to cut that can easily be compensated with a small investment – in the season’s ubiquitous hit song, for example, or in more children’s playgrounds for cities. The trick is to hurt the antisocials disproportionately and avoid broader ill effects. Six cycles ago, Rainer got a bonus for proposing a ban on drinking alcohol in parks; normal people could still go to a bar, so they didn’t mind too much – and they bought the safety logic that was also acceptable to the public order models. But the CTs were forced to drink gloomily at home.

That was a while ago, though – no more such easy pickings.

“Dogs!” Rainer shudders involuntarily as he hears Isabel Hübner speak up.

Like him, Isabel runs a happiness model. Together, they’re charged with keeping the self-declared happiness level at least stable; if it falls even slightly below 70 percent of the pre-pandemic level, it means the models are off.

“Dogs,” Isabel repeats. “People can be out at any time when they’re walking their dogs, right? Except after the main curfew? And it doesn’t cost them any credits?”

“We’re already sunseting that benefit, as you know, Isabel,” Ülker says. “Mandatory sterilization for dogs is seven cycles old. That was a tough one, you should remember all the arguments. Wasn’t your model used for the first pilot?”

Rainer remembers that one, a big win for Isabel. They’d both been hired when the 80 percent happiness level was breached and the data scientists who ran all five models had to go. The

target level was reset then to give the new hires some leeway – but the competition heated up pretty soon. It's quite a feat to get a proposal from a community pilot to a regional one and then -- the ultimate prize -- to federal implementation.

That, too, was a while ago. Now, Isabel's going out on a limb. It could just work though, especially if Ülker is under pressure from the top and clutching at straws.

“That's why I think there wouldn't be much harm in charging the dog owners some credits for being out at any time,” Isabel says. “One, they're already privileged because other people can no longer get dogs. Two, by now they're used to the idea that their dog ownership is only temporary and soon no one will have a dog. So if there's an additional cost, they'll accept it as temporary, too. We can test the reaction, of course, but I bet it won't make a blip. And it'll be extra tough on the antisocials – dogs are the only company some of them have. We know there's a disproportionate number of dog owners among the exempt, I can run the most recent numbers in a minute. We can get these people involved in credit trading, and from there, it's just a tiny step to getting vaccinated because it's a way to earn credits.”

“Do you own a dog, Isabel?” Florian asks. “Owners already pay a tax, it's been around since before the pandemic.”

“No, Florian, and I don't eat meat, either,” Isabel retorts. “I thought we all agreed about the basics.”

Rainer can see people chuckling at her zeal behind their partitions – that's never a good sign for a new idea. He knows Ülker will allow Florian and Isabel another round of back-and-forth to amuse the rest of the team, then move on. Rainer's eyes sink to his screen.