

FRANK RYAN

Frank Ryan came to widespread acclaim with thrillers such as *Goodbye Baby Blue* and *Tiger Tiger*, which gathered fine reviews and found a readership of more than 300,000 in the UK alone. His non-fiction book, *The Forgotten Plague*, which was also first published by Swift, was a Book of the Year for *The New York Times*, while *Virus X* was an Amazon com best-seller and *Darwin's Blind Spot* was the "Amazon Featured Book" recommended by Charlie Munger at the 2003 Berkshire Hathaway annual meeting.

His books have been translated into many languages and have been the subject of more than a dozen television features and documentaries.

Also by Frank P. Ryan

Fiction

Taking Care of Harry

Goodbye Baby Blue

Sweet Summer

Tiger Tiger

Non-Fiction

Tuberculosis: The Greatest Story Never Told

(In the US this was published as *The Forgotten Plague*)

Virus X

Darwin's Blind Spot

The Doomsday Genie

Frank P Ryan



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May your names be inscribed on the black rocks that decorate the beach of bones.

For Barbara whose support was essential as always

Prologue

Index minus 2 months

Prologue

03: 20/05h45

The three AH-64 Apaches stole in from the dawn horizon, like squat gray sharks invading a sleeping coastline. Emerging from the sea mists over a large desalination complex, they adopted a ground-hugging V-formation, the engines masked until they crossed over the security fence. The agricultural station was three miles ahead. From the air, the ripening fields of crops were laid out in radial slices so it looked like a gigantic target had been painted onto the desert. Cruising at 145 mph, the Apaches followed a raised embankment between two of the slices along which a solitary figure, wearing flapping Bermuda shorts, was jogging back to base after his pre-dawn exercise.

His hearing distracted by the earphones of his iPod, the man was oblivious to the dark shapes that were overtaking him out of the rising sun. A brief clatter of fire from a 30MM automatic caused his body to crash to the ground. The right earphone, detached from the shattered bridge over his head, fed a tinny whisper of Borodin's second string quartet into the disturbed air as the gunships swept onwards in what seemed an unhurried pace.

Soon visible, the central compound was a cluster of a dozen or so cinder-block buildings surrounding a massive glass and aluminum dome. The dome was the dead center of the radial plan. It was the bull's-eye in the target.

The Apaches went through a coordinated parabolic turn to line up facing the living quarters, out of which figures were emerging in various stages of undress. The attack was directed by a clean-shaven civilian located in the front cockpit position of the lead aircraft. He clicked

on a video camera to record the scene, capturing people wearing short-sleeved lab coats over otherwise naked bodies.

A single barefoot figure emerged from one of the buildings. He gazed about himself for a moment, as if in bewilderment, before running into the dubious shelter of the dome. Within moments an alarm screeched from the apex of the dome: a red beacon flashing inside the entrance. It merely heightened the panic. The air shrilled with desperate shouts and cries as the heavy M230 chain guns rattled into action, mowing the people down with implacable efficiency. The guns continued firing for about thirty seconds, after which the Apaches wheeled skyward, putting enough distance between themselves and the compound to allow the deployment of their Hydra 70 folding fin rockets. The oblong buildings disintegrated and a cascade of burning debris descended over the wrack of bloodied bodies.

In the lead Apache, the civilian spoke to the military pilot. 'I want to make a record of the anomaly.'

The lead peeled off from the others, rising a further two hundred feet before adopting a spiral route around the fields, the boundaries of which were highlighted with razor-cut sharpness in the low glare of the sun. From time to time the aircraft hovered, the civilian directing the camera to record specific features in the fields below. The variety of crops was staggering. There were several types of maize, irrigated paddy fields of ripening rice, cereals, root crops, endless rows of small fruit-bearing trees. The "anomaly" appeared to be everywhere. The examination and recording was conducted with the same implacable precision as the killing.

The helicopter continued on its spiral mission for five or six minutes and then it rejoined the other two that were still hovering over the now blazing compound. There was a pause lasting half a minute or so: information being exchanged.

All three Apaches rose to six hundred feet so the CPGs could position their Target Acquisition Designation Sights

Prologue

onto the dome. From what was effectively point blank range, they each fired two Hellfire missiles into the building. Designed for the destruction of tanks and heavy armor in the field of battle, the combined effect was a massive overkill. An inferno mushroomed into the sky, against which the helicopters were reduced to gnats, tossing and pitching against the maw of red flames and black smoke.

These are the voices from a conference on genetic engineering. The scientists' voices were recorded on audio tape but subsequently suppressed from public awareness:

'A new technique of molecular biology appears to have allowed us to outdo the standard events of evolution.'

'It is not known what sort of risks this is going to create because we have no tests.'

'There may still be sound reasons why the Pandora's Box should not be opened.'

'We are already – probably – on the path of no return.'

1

Strange Deaths

Top Secret
Operation Globalnet
Surveillance Mode: E-mail
Retrograde analysis: Index minus 20/12
DELICATE SOURCE: RESTRICTION CODE:
eyes alpha
L of E/ he→ee

Dear Lyse,

Such excitement!

I've enjoyed this week in London. We spent the evening in a small hotel by the Thames. My new employer has booked the whole place for the inaugural celebration - although relatively unknown in the international league, the company certainly knows how to spend money. There is a terrace leading from the restaurant, where we sat out and enjoyed the pyrotechnic display they laid on over the river. Of course El Supremo had a hand in planning this. I was secretly pleased that it didn't quite rise to his grandiose expectations. But all the same, as a climax to the week of planning, the fireworks were fabulous - a delight to cap a wonderful evening.

E.S. did his best to spoil it for all of us even before the midnight celebrations. He insisted on a toast, with champagne, that I considered inappropriate: "To rewriting history!" I had no option but to put a damper on his silly games. Then he had the arrogance to rebuke me, as we gathered at the balcony, for what he considered my lack of enterprise.

If I have a single worry, it is going to be his leadership. But the night was too stimulating to allow hubris to spoil it. I will admit that I didn't sleep too well, in part through genuine excitement at the challenges ahead, in part through worrying about his future antics.

If only you had been here!

Love,

H.

05: 17/ 08h45

Thirless, Arizona, is a small town an hour's drive west of Flagstaff. It has little in the way of distinguishing features, nothing that would set it out as different from the many such small Midwestern towns that beaded the former Route 66. Drive along Main Street and you pass by fast food chains, shopping malls and wide glass fronts selling real estate, with the promise of the "affordable luxury lifestyle" provided by their individually designed haciendas-with-pools, all guaranteed close to golf courses. The I-40, Route 66's brash modern offspring, is two hundred yards away, with its never ending drone of traffic between Southern California and the Four Corners states: heavy trucks, RVs and campers, tourists off to the mountains for a week's hiking, others heading northwest for the gambling thrills of Vegas or the scenic wonders of the Grand Canyon.

It was here in the parking lot outside the West End Mall, that MayEllen Reickhardt waited in her pick-up for the arrival of her friend, Lucille. MayEllen had driven twenty-seven miles with air-conditioning that was temperamental and she was feeling somewhat temperamental herself. A blue and cloudless morning. The temperature high. She wound down the window so she could light up a Marlboro and the heat enveloped her like the exhaust from opening an oven door.

When Lucille pulled up alongside, with husband Paco Cordoba at the wheel of a battered blue Mazda, she looked surprised to find MayEllen alone. MayEllen's husband Bill usually did the driving. Now MayEllen eyed the petite, yet shapely, figure of her friend, as Lucille climbed out of the vehicle and opened up the trunk. With a groan of undisguised jealousy, MayEllen kicked open the pick-up, sliding her not-so-shapely five feet nine inches onto the hot asphalt. Both women were similarly dressed in short-sleeved white cotton shirts and blue jeans. MayEllen had a

thick tangle of bronze-colored curls, bleached tawny by the sun. Her eyes were blue - Bill called them her Molly Malone's. Lucille's eyes were Hispanic brown and her hair was straight and a glossy black. Both women wore high-heeled cowgirl boots. The chatted amiably as they ferried cacti from the trunk of the Mazda to join those already loaded into the back of the pick-up. The job complete, the two women called out belated goodbyes to Paco, who was already heading off.

Lucille just stood there, like she was waiting for MayEllen to explain Bill's absence.

'Bill ain't feeling too good.'

'I know a pretty good hangover cure - like this herbal tonic I got the recipe for that was handed down from my grandmother.'

'I don't think it's a hangover. I don't rightly know what it is - except I think it might be the flu.'

Lucille focused on just one of the billboards, the one that advertised a cream that made your skin twenty years younger.

'Do folks get the flu when we're almost in summer?'

'Lucille - I don't know.'

MayEllen and Lucille talked with a pleasant Western drawl. They moved slowly, people used to not hurrying. Thirless, where Lucille lived and worked as a waitress, was a town of twenty-eight thousand people. Everybody knew everybody. It made MayEllen glad that the farm where she lived - the B&M Cactus Farm - was further west and off the highway, a dead end along its own dirt road. It meant those nosy townfolk, such as Lucille Cordoba, couldn't get to know every last wrinkle of their business.

Lucille hopped nimbly into the passenger seat, while MayEllen hauled herself back into the driver's seat. She plucked at the armpits of the shirt. Then she fired up the engine and set the pickup rolling down Main Street for a short distance, against the scenic backdrop of the distant Black Mountains. She took a left onto a dirt track that was lined by desert sand and tufts of sage and rabbit weed, bumping over the irregular surface before joining the I-40 heading east, like a precise surgical scar through what city-born Bill called "the Nowhere Desert".

'You're smoking again.'

'I should give you A-plus for observation.'

'I thought you'd given that up.'

MayEllen took another drag and said nothing.

Lucille adopted a huffy look but she didn't engage in argument with MayEllen. Few people did that and won.

It was a long haul, from Thirless to Phoenix, where the two women planned to meet up with friends and rivals at the Saguaro Annual Convention, named for the giant cactus that gave Arizona its yellow state flower. It was Paco and not Lucille who had the interest in cacti. MayEllen liked and respected Paco for that. He was her kind of a no-nonsense guy, raising the plants as a dedicated amateur outside of his regular work as a telephone engineer. And thinking about cacti made her think about the desert so that, from time to time, as she drove along at a steady fifty, MayEllen glanced out there at the passing dunes and buttes, and the thinly spaced plants that people wrote off as scrub. She knew that it was a much more deceptive landscape than that, with a huge variety of wildlife that most people failed to see. There was nothing she and Bill liked better than to ride through it bright and early on a cool Sunday morning on their Harleys. Best of all was at the time of the spring rains when it became an Eden of glorious color with hundreds of different flowering plants all showing their faces at once.

She said, 'I'm worried about Bill.'

'He must be feeling bad, letting you come on your own.'

'I didn't want to go and leave him but you know how ornery Bill can be.' A flash of memory: Bill's face turned up to her from out of the chair: her kiss. 'Honey' – wisecracking – 'I just timed it nicely. I got the flu. You got the trip to Phoenix. Go have a real bad time without me.'

MayEllen stared at the highway running off ahead of them, straight as a ruler line into the flat distance. 'There's something I got to tell you - something I probably shouldn't be telling nobody. Could damage our business.'

'You know I'm not one for talking, MayEllen.'

'I wish! But I'm going to tell you anyway.' She sighed, blinking quickly, still staring fixedly ahead. 'You know about those things they talk about on those UFO shows you like so much? What they call those field circles?'

'You mean those crop circles.'

‘Well that’s what I’m talking about.’

‘MayEllen, are you telling me you’ve seen a crop circle?’

‘Well, you know I don’t believe in that UFO business. But anyway, I’m telling you we have one of them circles in our cactus field.’

‘Oh, my God! How’d it get there?’

‘How would I know? All I’m saying is I have this bad feeling about it. So now you know why I’m smoking again.’

Lucille probably wouldn’t have believed what she was hearing from anybody else other than MayEllen. She took several seconds even to digest it. It was so unlike MayEllen to volunteer such information – that and the way she kept staring into the distance, like she couldn’t face Lucille while she was talking about it.

‘Oh, my! I thought you were just frettin’ about Bill.’

‘Sure I’m frettin’ about Bill. That’s what I’m trying to tell you. It only happened yesterday. I was making breakfast when he came back in out of the field and told me about it. Oh, Lucille – he was looking real worried.’

‘I never thought you got circles in cactus fields.’

‘I never thought so, neither. But he took me out to look at it. I didn’t want to get up close. There was a disgusting smell. You know – like something gone rotten.’

‘Yukkk!’ Lucille wrinkled her snub nose. ‘I never actually heard that crop circles smell bad.’

‘Will you stop winding me up and just listen? Bill decided that the only thing to do was to get rid of it. So he chopped down all the plants in the circle and he set fire to them and buried the whole goddam mess.’

‘Oh, my!’

For the first time in minutes MayEllen swiveled her gaze from the distance to her friend’s pretty-doll face, and not for the first time she wished that Lucille would get herself a brain transplant.

‘Don’t you see what I’m getting anxious about? That stinking circle - it was only yesterday. And now Bill’s sick.’

‘Aw, come on, MayEllen. That’s just plant stuff. Plants can’t harm people. He’s just coming down with a summer cold, or maybe the flu. You’re just frettin’ because he always comes with us to Phoenix, is all.’

‘Maybe I am at that.’

MayEllen wished she had a cell phone. She didn't believe in cell phones. She believed they surely fried your brains. But now she just couldn't stop fretting about Bill. When she got to a point about twenty miles south of Flagstaff, she pulled into the parking lot of a motel and went into the lobby to call home.

It took Bill a long time to pick up the phone.

'Bill – is that you, honey?'

'Hey – MayEllen!' It didn't sound like Bill's voice at all, more a low wheezy growling. In the pause, she could hear grunting noises.

'Bill – are you okay?'

'Oh, sweet Jesus!' That grunting sound again. She realized what it was. Bill was vomiting at the other end of the phone.

'What's happening, Bill? Have you gotten worse since I left?'

Bill started making coughing noises. They weren't the normal noises of somebody coughing. Every time he coughed, it sounded like his lungs were being torn up by their roots.

'Oh, Bill! You sound in really bad shape.' The words were inadequate, hopelessly out of kilter with the hollow feeling that was invading her breast.

She waited for him to answer, her hand cramping with tension around the receiver. No answer came, only more of the same unpleasant noises. MayEllen was not the sort to panic. But those noises at the end of the phone made her panic. She knew Bill wouldn't have called the doctor. Bill hated doctors.

'I'm coming home,' she said abruptly. 'But first I'm calling Dr. Manning to go see you. You just hold on `til I get there.'

*

About four years ago, when the hospital had moved to its present site at the edge of town, it was hailed as a long overdue replacement for the old municipal hospital that had grown up around the defunct desert-air sanatorium. The new hospital, formally renamed "Thirless Memorial Hospital", was an airy five-story building equipped to deal with the modern-day stress-and-affluence related ailments. MayEllen dropped Lucille off at her home before heading for the hospital parking lot. She wanted to see Bill

on her own. Inside the lobby there were signs in English, Navajo and Spanish and a bewildering color-coded directory, which you were expected to follow through lines laid into the floor. Today, these reminded her of the panic lines in the aisles of aircraft. Dr. Manning was waiting for her at the reception desk.

‘Where’s Bill?’

‘Now, you take it easy, MayEllen. Bill’s been taken to the Intensive Care Unit.’

Dr. Manning did that thing with his mouth, a sucking in of his lips. He tried to lead her toward some armchairs on either side of a coffee table by the window. MayEllen refused to follow.

‘I want to see him.’

‘I need to explain things to you before I take you to him.’

‘What’s the matter with him?’

MayEllen looked suspiciously around her. She could see that the woman at the reception desk was ogling them, like she knew something MayEllen didn’t.

‘Bill’s very sick. I have to prepare you for how he’s going to look.’

MayEllen led the doctor towards the elevators. She punched the call button. ‘Top floor, right?’

‘That’s where the ICU is, yes.’

While she waited, she continued her interrogation. ‘He’s very sick? What the hell’s the matter with him?’

‘Do you know about barrier nursing?’

‘I don’t know nothing, Dr. Manning. And it seems to me I’m not getting any wiser from this conversation.’

The doors opened and they stepped in. The Star Trek voice, disturbingly soft and female, told them to “Mind the Doors”. The elevator suddenly felt overheated and claustrophobic and MayEllen wiped sweat from her brow with the back of her hand. She had never seen Dr. Manning look this worried.

‘Bill’s illness is unusual!’

‘What do you mean, unusual?’

He lifted his face up, watching the floor levels floating slowly by. ‘There are some people here who will explain about that.’

They stepped out onto the fifth floor. There were no plants in pots, or comfortable armchairs by the windows.

Dr. Manning followed those maddening guidelines of dotted red and yellow inlay, which divided right and left. They took the red line, which went through twin doors, with the sign, NO ADMITTANCE – AUTHORISED MEDICAL PERSONNEL ONLY.

‘Bill has some kind of a serious infection?’

‘So they think, yes.’

‘This barrier nursing business –?’

‘A precaution, Mrs. Reickhardt. For your benefit and the benefit of the staff taking care of him.’

Dr. Manning never called her Mrs. Reickhardt.

‘You’re saying he might be contagious?’

‘We have to assume so.’

‘I still want to see him.’

‘You’ll have to dress up.’

‘Then I’ll dress up, whatever. But I want to see him now!’

‘The nurses will show you what to do.’

Dr. Manning ushered her through a second pair of glazed doors into a u-shaped corridor with a dozen or so further doors opening off it. He didn’t follow her. Three figures, one man and two women, were standing in the corridor. They were all gowned up like in the movies. She had the impression they had been waiting for her to arrive.

MayEllen scowled as one of the females introduced herself as Nurse Ritter, the “Infection Control Nurse.” The nurse took her into an annexe with racks of gowns on the wall and overshoes, masks and gloves laid out in cardboard boxes on a low glass-top table. MayEllen’s hands were shaking as she put on the protective gear. When she was gowned up, the nurse took her into a room off the corridor where a man was lying in a bed. He was connected through a battery of wires to an eight-channel video monitor. There were two separate drips running into him, through the skin on either side of his neck. A crash cart stood by the bedside.

‘That ain’t my Bill.’

‘I’m afraid it is, Mrs. Reickhardt. I’m sorry.’

MayEllen stared at the figure in the bed and she almost fainted from dizziness. She just stared at what they were telling her was Bill. The dizziness worsened and she began to shake.

‘What’s wrong with his face?’

‘It’s swollen. A complication of his toxic state.’

Only Bill’s hands and face were exposed and even his face was half hidden by an oxygen mask. All the skin she could see was blistered and peeling. His eyelids were so puffed up, he looked like some wino who had cooked all day under the July sun.

‘I only left him at home this morning. He looked fine. Just a bit of a cough – a touch of the flu. He didn’t seem all that sick.’

‘That’s something we want to talk to you about, Mrs. Reickhardt.’ It was a man’s voice, deep throated, sounding tired. ‘I’m Dr. Valero. Your husband has been admitted under my care.’

Valero was a tall slim Hispanic, with a bony look to what she could see of him. He was wearing more complicated protective clothing, with mask that covered his mouth, cheekbones and his almost-black eyes. MayEllen turned her face away from the bed, an involuntary movement she had no control over. She thought: *It’s just a nightmare. I’m going to wake up any moment.*

Just then Bill moaned, a strangulated sound, and his head turned towards her, his eyes struggling to peer out through the grotesquely ballooned eyelids. His lips, bloated like the eyelids, parted, and another terrible moaning sound came from behind the mask.

‘He... he knows I’m here?’

‘He’s conscious to some extent.’

MayEllen put out her gloved hand and took the hand of the bloated figure in the bed. The fingers closed on hers, tried to squeeze.

Tears threatened, but she realized that she was too frightened to cry. ‘It is Bill – it really is him!’

His hand was so hot she felt it burning right through the glove. MayEllen couldn’t bear to see Bill in that terrible state. Impulsively she grabbed hold of his hand again and held onto it as the nurse took her shoulders, encouraging her to leave. There was a soft tearing sound and the skin of Bill’s thumb came away from his hand, like a finger tearing from a rotting glove. MayEllen looked down at the shriveled skin of Bill’s right thumb, now

resting in her open palm. The nail was still attached to the skin.

She felt a hot wave rise up out of her chest and travel all the way to the roof of her skull. There was a roaring sound in her ears and a smell in her nostrils, like burning rubber.

05: 17/ 18h20

At the Ivan Wallin Field Reserve, an ecology station at the southern end of the Mojave Desert, Professor Ake Johansson carried a roll of computer printout back to his office from the mainframe computer down in the lab. The printout - covering the last few days' ICDITD measurements in Sector 5-32 - was frankly baffling. Clearing the surface of his desk of papers and journals and running the roll from floor to floor over the entire desk surface, he passed it through his hands a few feet at a time, stopping at intervals to draw thick red circles with a text liner around sudden jumps and dives in the charts drawn by one or more of the five different colored pens.

To the field ecologist it was apparent that something very strange was going on. Two days earlier he had spotted significant fluctuations in insect density measurements. He should have gone out and inspected the area today. But a committee meeting had taken up all of the afternoon. Now he continued to run the readouts through his hands, comparing fluctuations with baseline controls, to convince himself there was no computer glitch to explain it.

The electronic baselines were all normal.

Scratching at the gray twelve-hour stubble on his cheeks and his chin, he couldn't imagine a reasonable explanation.

Insect populations didn't go crazy for no reason. Johansson ought to know since he had been monitoring them in their desert ecologies for almost three decades. But suddenly those insect populations were undergoing bizarre fluctuations.

Ake Johansson had invented the technique of ICITD, or "insect counts in three dimensions," which coupled nicely with standard techniques of plant foliage estimation. Put the two together and you had the baseline

food web of the desert, mathematically predictable against the natural ecosystem variables, such as elevation, shade, temperature and rainfall. This inter-relationship of insects and plants was the key to survival of the local wildlife in an ecology where the temperature ranged from below freezing to close to boiling point and the rainfall was limited to a few inches per year. The balance was always precarious and any unexpected change was cause for concern. He stared at the readouts, with a restless anxiety.

It was an anxiety he would have to endure overnight since it was far too late in the day to investigate it. He would go take a look at first light after he had seen the latest Landsat data.

*

The telephone rang in the office of the Heimholz Professor of Evolutionary Botany in the Department of Integrative Biology at U.C. Berkeley. The recording machine prompted: 'This is the voicemail of Kay McCann. I'm either busy with another call or out of the office right now. If it's important, leave a message and I'll get back to you.'

The caller identified himself as Ake Johansson, and he sounded irritated at having to leave a message.

'There's something of a problem, Kay. I've left the same message on your cell phone, which is currently switched off – I presume because you've already set out for Boston. I'm leaving this message on your office phone in case you check in while you're away. We need to talk.'

*

At the time Johansson was attempting to get in touch with her, Professor Kay McCann was wrapping the hotel issue white bathrobe around her after stepping out of the shower at the Sheraton Boston. She had switched off her cell for the duration of the American Association for the Advancement of Science meeting. She was glad to be off duty. She needed to focus down hard on her plenary speech in two days, the Friday morning. Three of her grad students were presenting posters on the Saturday half-day and she was also determined to give them her prime attention. Anybody, other than her son, Sean – who already knew how to get in touch via the hotel switchboard – could reasonably wait until she got back to Berkeley on Monday. Kay was also looking forward to

tonight's welcome dinner, an opportunity for the course organizers and committee chairpersons to indulge in a little gossip before the busy program started.

While showering, she left the bathroom door wide open so she could wind down from the flight listening to some music from the TV sound program. And now, out of the shower, and just as she got halfway to the closet, a new track cut through her musing as abruptly as if somebody on the airwaves had called out her name. The band was U2 and the track was *I Still Haven't Found What I'm Looking For*.

She smiled.

Jesus, how something melted inside with that sacred memory – Billy Forrester, and the smoky crepuscular light of the woods at Big Sur, Plasket Creek! They had made love on the leather-smelling back seat of his 80s Mustang.

For Kay, then aged seventeen, it had been the initiation ceremony, as well as the first and last time with Billy. Looking back with the wisdom of maturity, he had been a little on the wild side, five years older than she and more versed in the art of seduction. She had never regretted it, not even for a moment. Seventeen now seemed like an age when you still believed in magic.

At the time the magic of a handsome man adoring you had seemed infinitely more attractive than her forthcoming exams and the world they heralded, the world she now inhabited, of career and responsibility.

She didn't want to let the memory go. When the song ended she missed it. She wished it would play just one more time over, so she could lose herself for a few more minutes in the nostalgia of being seventeen again and still believing in magic.

05: 18/ 03h21

In Atlanta, Will Grant was attempting to rouse himself from sleep to answer an urgent telephone call. ‘Well, I’m telling you, Doctor, this is a very strange case. We’ve already sent you specimens. I certainly hope you’re going to be able to help me here.’

Will rolled over in bed, to slide out quietly. It was a habit he had acquired over the years to protect his wife during nights on call. Even now he was unable to suppress the instinct to look at the place in bed where Marje’s figure would normally have been sleeping.

‘Just give me a minute.’

A pathologist with a special interest in plague viruses, he was fielding emergency calls for his department, which was the Special Pathogens Branch at the Centers for Disease Control. He had experienced difficulty getting to sleep and had sat up in bed until 1:00 am, drinking two or three generous shots of whisky and listening to nighttime jazz on his iPod. The whisky was still in his system, slowing his thinking. Meanwhile the voice on his bedside phone sounded far too impatient to wait for him to wake up.

‘Look, Doctor - I’m chief of intensive care at the Memorial Hospital in Thirless. We have a worrying situation.’

Will rubbed at his right eye with the heel of his hand. ‘Remind me. Thirless – where’s that?’

‘Thirless, Arizona.’ An edge of irritation had joined the impatience in that voice. Will had only the vaguest of recollections of Thirless, Arizona - one of those desert stops along the highway - but big enough, it seemed, to have a hospital with an intensive care unit.

‘I’m sorry to do this to you. But could you possibly give me your name again?’

The voice was angry now: 'My name is Ric Valero. I'm calling you about one of my patients. You awake now?'

'How can I help you, Dr. Valero?'

'I'm dealing with a man with a spreading gangrene of his skin. This is one hell of a toxic guy.'

Will pulled a soiled white T-shirt over his shoulders. 'Can you hold on for a few seconds. I'll go pick up the extension in my office.'

Padding through to the top-of-stairs landing, he checked on Janie, to make sure she was sleeping. Her bedroom door was half open and she was lying on her left side, her slender knees drawn up to her chest, her hands tugging a fan of sheet to her mouth. She also had the nightlight on. Janie had reverted to the nightlight after Marje's death nine months before. And now, in passing her bedroom by, Will felt guilty about the fact he wasn't spending enough time with her. The low light also illuminated the team picture of the Atlanta Hawks that filled almost the entire long wall by the side of her bed. He closed her bedroom door to nearly shut, making his way downstairs and into the office, where he flicked the light switch and picked up the extension, blinking in the sudden brightness.

Valero said, 'I don't mind telling you, this is the most toxic patient I have ever had to deal with.'

Will had pen and paper ready: 'Give me the patient's name.'

'Bill – William Reickhardt. Aged forty-seven.'

'Reickhardt, William, forty-seven.' Will switched on the coffee percolator he kept by his desk. 'Okay - fire away.'

'The development has been lightning fast. This guy was fit and well twenty-four hours ago. Far as I can tell, he gets some kind of a flu-like prodrome. His wife takes off on a trip to Phoenix, calls home just to check. Next thing he's coming in on a gurney with all lights flashing. He has a temperature we can't control. We're cooling him right now with two fans, aspirin and ice packs, and it's 105 and rising. And this rash –!'

'Describe the rash.'

'We watched the thing evolve. When he came in – *nada!* Then he gets a spot about an inch above the umbilicus. It becomes a branching root. Hell, we took

pictures every five or ten minutes to capture the damn thing evolving. You just have to put a skin marker at the edge – any edge – and you can see it go past your marker in minutes.’

Stupefied by lack of sleep, Will took the first slug of coffee. ‘Can you describe the rash in more detail?’

‘Color – kind of blue-black, like classic gas gangrene. It smells like a kind of sickening sweet smell, which would also fit. But I never heard of any case of gangrene behaving like this.’

‘What about its distribution?’

‘It’s spreading very rapidly, in that same arborescent fashion. Out over the abdomen, then up onto the thorax. It moved from his chest to his neck, head, legs and arms – in that order - in just a matter of hours.’

‘The rash has become confluent?’

‘If that’s an appropriate term for something like this. Looks like every square inch of skin has become swollen and black. Dr. Grant – let me tell you how it really looks to me. It looks like this guy’s skin has, in the space of six hours or so, just died on him while he was still alive.’

‘Now you’re getting emotional.’

‘You’d get pretty damned emotional if you were here looking after this patient. The skin isn’t all.’

‘Go on.’

‘We’ve taken MRI scans. You wouldn’t believe the hassle, trying to get those done in somebody who could be contagious. But you should see the films. There are spreading lesions there too. Brain, liver, spleen.’

‘Spreading lesions?’

‘Spots that grow into roots and then they take up pretty much the entire organ.’

‘So it’s blood-stream spread?’

‘No doubt about it. The same thing happening in the internal organs as we’ve seen in the skin.’

Another stupefied swig of the coffee, burning his mouth again. ‘Did you say that you’ve sent specimens?’

Valero’s voice fell. ‘In two batches, liver biopsy, skin biopsy, bone marrow, throat and skin swabs, feces, urine - even cerebrospinal fluid. The CSF seemed curious to me in that the brain was so abnormal and yet the CSF was clear. I’d have put money on it being turbid. We didn’t just send tissue in formalin. We sent you fresh frozen too, so

you can get cultures, including viruses. Especially viruses. If we've thought of it, you've got it, two batches, special air-freight.'

Will shook his head, puzzled he hadn't heard of their arrival.

'This first batch of samples - how long ago did you send them?'

'Seven or eight hours ago. You should have gotten them three or four hours ago at the very latest.'

'Okay. I'll look into it.'

'This is the first time I've had the chance to call about the clinical situation. The earlier contacts were through our microbiologist.' Valero's voice was rising again in pitch. 'Look! You've got the picture now. Just tell me - do you have any idea what we're dealing with here?'

'You've considered the obvious possibilities?'

'We've considered them all. Necrotizing fasciitis? We've been onto that from the time of admission. But our cultures are negative up to now and an antibiotic cocktail that would kill every flesh-eating bug in the state of Arizona has made no difference.'

'You've considered plague?'

'Of course we've considered plague.' The voice became muted, as if Valero had put his hand over the mouthpiece to talk to someone. 'Oh, for goodness sake - well, yeah! Just a minute! Okay - I'm coming!' Valero's voice returned to the telephone, more stressed than ever. 'Plague is endemic here in the Southwest. We've done swabs, cultures and the immunofluorescence tests are up and running. To be read first thing tomorrow - sorry, I mean later this morning.'

'You mentioned viruses?'

'You think it could be some virus?'

'It's possible. But your local microbiologists must have done a screen for viruses already?'

'I checked with both the path lab here and the public health lab in Phoenix just before I called you. Nothing so far, but it's too early to be certain of anything.'

Will was silent a moment, thinking furiously.

Valero interrupted: 'Listen, something else has cropped up. I've really got to go.' Will overheard the whisper of an urgent conversation at the other end of the telephone.

‘Dr. Valero – don’t hang up – not just yet. I don’t even have your contact number.’

Another distant whispered conversation. Will could make out anxiety-laden voices. He heard Valero’s exclamation, ‘Oh, for Christ’s sake!’ Then he came back on the line, sounding distracted. ‘Listen, I’ll give you one more minute. We’ve admitted another patient with a temperature of one hundred and four. A local doctor, called Manning. The man is Reickhardt’s family doctor.’

‘Has he got a rash?’

‘No rash – not yet.’

An obvious alarm had entered Valero’s voice. There were more disquieting sounds in the background. A woman’s voice was calling Valero’s name.

‘Okay, I’ll let you go in just a few moments. This man, Reickhardt, what about his systemic condition? His immune response?’

‘All systems failure. Kidneys, liver, bone marrow. There never was a bone marrow response. No leukocyte response, no lymphocyte or specific antibody response – not even IgM. All systems down in his boots, from the time we first admitted him. This guy is already dead. He just hasn’t gotten around to admitting it yet.’

‘Give me your contact details. I’ll get back to you.’

*

One of the things you learned from long experience with plagues is that panic, however understandable, is unhelpful – even dangerous. Will dialed the switchboard at CDC and spoke calmly to the desk clerk: ‘It’s Dr. Grant here. I want you to put a call out to the home of Mrs. Kristina Earle. It’s urgent.’

‘I believe she’s already in the lab.’

Her reply surprised him. What were the chances that Kristina’s presence there in the early hours of the morning was connected with the same emergency? ‘Well, you’d better put me through to her.’

‘I’ll page her, Doctor.’

What did Kristina think she was doing, not calling him? After a pause of a minute or so, he heard Kristina’s Atlanta accent, ‘Hi!’

He couldn’t hide his irritation: ‘What’s going on?’

‘I’m in BSL-3 right now.’

‘Processing samples, from the Thirless case?’

‘That’s right.’ There was a hesitation in her voice. ‘I’m aliquotting the second batch. Liver biopsy, second bloods and CSF.’

Will exhaled. ‘Why didn’t you call me?’

‘There was nothing to suggest anything out of the ordinary. I didn’t think –’

‘You should have thought to call me, Kristina. I’ve just taken a call from a Dr. Valero and I didn’t know a damn thing about the situation.’

‘I’m sorry, Dr. Grant. But you got to get some sleep yourself. Or do you want me to wake you with every sample, any time of the night?’

She had called him “Dr. Grant”. He sighed, realizing that she merely thought she was protecting him. His voice softened. ‘Okay, Kristina – I’m coming in.’

*

In the atrium of Special Pathogens Will felt dwarfed in spite of his six foot two inches. The roof soared sixty feet overhead, capped by a church-like dome of frosted glass. In spite of the dimensions there was a feeling on entering of being hermetically sealed in. A stainless-steel cylinder about four feet in diameter ran from floor to ceiling, carrying ducts and cables. Over in the corner lay a mound of containers, respirator masks, rodent traps, plastic gloves, flasks and tubes for serum or blood - anything needed to fly out on some new investigation. Most intrusive, and contributing to the claustrophobia, was the sound, a continuous low rumble of heavy machinery positioned that came up through your feet, like from some Morlock factories deep underground. His office was off the ground floor, down a corridor. Opposite the office building, and across the green-carpeted floor, was the BSL-4 facility where he did most of his work.

Kristina was sitting at one of the small square tubular steel tables laid out over the green carpet.

‘You coming here to check up on me, Dr. Grant?’

‘You’re damned right.’

‘In case I let excitement get the better of me?’

Will flopped down in the chair next to her. He explained what Valero had told him over the telephone.

‘Confluent gangrene?’ Kristina showed surprise. ‘I never heard of anything like that before.’

‘Me neither.’ He tapped his index finger on the opened pages of the laboratory log she had slid to him across the table. ‘Okay – so what do we have?’

‘Two separate arrivals of Thirless specimens. Batch one, throat swab, skin swabs and biopsy, blood and serum. I Gammacelled the blood and serum, so we could get some serology aliquotted and under way.’ The Gammacel contained intensively radioactive cobalt-50 sealed off from the laboratory environment by ten tons of lead. It was used to kill potentially dangerous microbes before immunological screening could be carried out on the serum. The lethal dose of irradiation for a human being was 600 or 800 rads, but plague viruses were a lot tougher and some needed five million. ‘Ditto,’ she added, ‘for a piece of the skin biopsy. Swabs, blood, serum and biopsy through the BSL-4 and the usual tests also under way.’

‘You injected animals?’

‘Oh, no – I forgot the animals!’ Her eyes lifted up to confront his, like she was reproaching him for even thinking such a thing. There was a greenish tint to her dark skin in the artificial light. And a look in her eyes beyond the tired challenge that suggested an appeal.

‘I’m ready to begin on the second batch, which I’m still processing, mainly more blood and serum, CSF, liver and skin biopsies.’

‘Do me a favor, Kristina. Go check the results right now? See if anything at all is showing up?’

‘You know we’re clutching at straws this early.’

‘I still want you to look, okay!’

‘You’re the boss.’

‘I’m thinking about what Valero said – about the rapidity of disease evolution.’

Kristina’s eyes were still returning his gaze. She must have been working patiently through half the night. Irritation would have been a natural enough explanation of whatever feeling he saw in her eyes.

She intoned: ‘Level-4?’

‘Level-4 you can leave to me.’

*

The walls of the BSL-4 suite were massively thick, designed to withstand a neighboring nuclear blast. As he walked down the long and empty upper corridor leading

to the entrance, an incongruous peace came over Will, as if he were stepping not into danger but into a cool and refreshing shower.

It was far from the normal reaction. Few virologists, even those with extensive experience of working with plague pathogens, could live with the ever-present dangers of working in BSL-4. He knew people talked about him. Some called him "the iceberg". He ignored the banter because he knew they were wrong. He felt the fear as soon as he entered the building, every time. The day he stopped being afraid was the day he grew dangerously careless. And that would never happen. The difference between him and most other people was not that he was without fear but that he could work with it. In recent years, while Marje was sick, working with danger had become a useful distraction. But as her illness progressed, his wife's need for him, the increasing burden of supporting her, made his twelve hour working day a tougher ordeal. Marje had been a strong and resourceful woman. But the illness had been relentless. It had ground her down until she became so mentally fragile you didn't know what to expect coming home. In the end it had worn him down too. He had felt increasingly guilty with the distraction of work because he knew she missed him every minute that he wasn't at home.

'I feel a little better today!'

'That's nice, sweetheart!'

In his mind here tonight, walking the echoing corridor to BSL-4, he imagined he was still holding her. He felt the jitters that had invaded her body and soul so it felt like he was holding a frail and terrified animal.

At the door Will inspected the gauge that measured the differential pressure between the corridor outside and the suite of rooms inside. There had to be a pressure drop from outside to inside, the first step in an increasing vacuum with every room. He had passed through here thousands of times. But still he checked. The pressure was satisfactory. He put his pass card into the slot. Nothing happened. The pin light on the lock stayed red. This too was a safety precaution. If he lost his card or somebody stole it and tried to get in here, it would do them no good. Strange as it might seem, there were fanatics desperate enough to want to enter here. He dialed an additional

special code. The light turned green. He took the card out of the door and passed through into the locker room. Here he stripped off his clothes and put on clean surgical scrubs, then surgical gloves. He passed on to another room, where some large and clumsy suits of a cerulean blue hung along a rack on the wall. The suits were complete with whole face visors, originally space suits, designed for NASA. Will's name was stenciled on one of them.

He put on the heavy rubber suit, wriggling his gloved hands into the thicker outer gloves that were taped to the wrists and pushing his feet down into the booties that formed an integral part of the suit. From now on all manual operations were necessarily clumsy. He attached to his suit a HEPA filter, which would act as an additional safety screen for the air he breathed in the hermetically sealed laboratory. He performed each step with a practiced care. Nothing could ever be downgraded to routine. The air regulator was a heavy metal coupling that would supply and filter his air supply when he was inside. He slung the heavy metal coupling over his shoulder and put on some ear protectors before he pulled up the Ziploc that, with an additional rubber seal, enclosed him within the suit and helmet. Finally he put on Wellington boots. His body weight had increased by 25 pounds.

Once through the airlock, he coupled his HEPA filter to the nearest airline, a red coiled hose that dangled from the ceiling. The air now came in at 60 pounds per square inch, inflating the suit and draining out through four one-way valves, so he didn't blow up like an over-inflated tire. The familiar roaring invaded his ears, drowning out all outside sounds even though it was muted by the hearing protection. Kristina had already fed the new samples through the entry hatch and Will spent a good ten minutes in the prep room, getting ready to inject a second batch of animals. Then he moved awkwardly across the floor, coupling and uncoupling from one ceiling hose to another in the thirty seconds it took the suit to deflate. It took him over a minute to cross the thirty yards of floor to reach the door to the animal room.

Most dangerous of all in the Level 4 lab was the animal room. Like every door in this facility, it carried warning signs in large capitals and the biohazard logo in

blood red. There were animal rights people who decried the fact they used animals here. But it was exceedingly unlikely they would attempt to break in – not unless they had some kind of a death wish.

The operative caution here was “sharps”.

Animals were unpredictable. They voided secretions that were likely to be contagious. The animals - mice, rats and guinea pigs - were kept in their own cages, with their filtered air supply kept at a negative pressure to the surrounding room. But you had to cross those barriers when you needed to inject them. And that brought you into contact with sharps. Sharps were broken glass, the needles you used and the animals’ claws and teeth. Sharps could penetrate gloves. They could even penetrate the heavy rubber of a Centurion suit. More often than not it was through carelessness with animals that scientists working in BSL-4 laboratories died.

Armed with his new samples of blood, tissue and cerebrospinal fluid from Bill Reickhardt, Will opened the final door and went in.

*

Kristina finished her tour of the culture and serology results five minutes or so after Will had entered the animal room. She returned to the table in the atrium, mopping her face with a paper towel while waiting for him to return. The seconds passed with excruciating slowness. She got to her feet and walked to the giant dispensing machine against the wall. Usually she made do with water. Tonight she hankered after a refreshing fizzy drink. A flashback: Will’s voice cajoling her about her lack of appreciation for jazz:

‘You’re way too cool.’

She chuckled. Bought a Sprite and returned to the table, holding the cold can against her brow. She thought: You got Miles Davis tootling *Tutu*; I got Marvin Gaye. Give me the funky magic of *Sexual Healing*.

Will had upset her more than she had let on, giving her grief over the telephone. But then there had been that moment when their eyes had met. A thrill went through her, recalling that moment. His eyes were that glacial blue that seemed to frighten people. But they didn’t frighten her, not Kristina Earle. She appreciated what others just didn’t notice, the immense courage demanded by his day-

to-day job, the manly qualities that included courtesy, the struggle with loneliness after the death of his wife. Kristina was married to a husband who had lost what physical attraction she had felt during their courtship to become a boorish and predictable slob who took her for granted. A Masters degree, doing homework on her mother's kitchen table had led her to a doctorate in medical microbiology. She had sweated blood to gain this full-time job of twelve hour shifts working with BSL-4 viruses. Kristina was breathing hard now, almost hyperventilating. The fact was she was close to tears.

Sexual healing: she wished. She could die for it. But she wasn't going to get it – not in this life.

Blinking suddenly, she was startled into reality by a pain in her fingers.

She had automatically begun to open the can of Sprite and now there was a sharp, tingling pain in her fingers where she had pulled at the tab. Her fingertips felt like they were swollen and inflamed. She couldn't open the can. She tried again to yank the tab open but she was forced to abandon it because of the stabs of pain that were shooting up her hands and into her wrists from her fingers.

She walked over to the four-story office block behind her, a building that was free-standing, yet entirely enclosed under the same high-vaulted ceiling as the atrium, like a small island in the three-dimensional space of the massive laboratory complex. She sat in the secretary's chair in the ground floor squeeze, switched on the desk lamp and examined her hands. Her fingers and thumbs were throbbing. The throbbing pain was worsening fast. Already it was past her wrists and darting half way up her arms. She was beginning to hate that omnipresent roaring of the ventilation machines, which prevented her thinking clearly. The vibration was irritating her very bones. At that moment, her training kicked in and she began to investigate her actions.

Could I have made a mistake?

All of a sudden a wave of terror invaded her, viciously, hungrily. It tore right through her like a shark through water.

Blinking a little faster than usual, she went over the precautions she had taken. The samples had arrived here

from Thirless, sealed with a thick brown tape in a plastic-covered padded envelope. She had picked them up from the loading bay and taken them directly into the BSL-2 facility. In her mind, she went back through the routine of entering the door. She read the familiar sign in capitals: CAUTION: GLOVES REQUIRED IN THIS AREA. BSL-2 – no big deal: the ordinary pathogens you met in any hospital bacteriology laboratory. She recalled taking all the right precautions, of putting on gloves, walking on through into BSL-3. Now, involuntarily, she touched both her hands to her face. Her fingertips felt hard as hazel nut shells, and red-hot. She tried sucking them and the pain only got worse. The telephone was ringing, right there beside her. She didn't want to be distracted. BSL-3 –! She struggled to recall her exact sequence of actions.

The sign on the door: the usual biohazard logo, in carmine red. GLOVES REQUIRED IN THIS AREA. DISPOSABLE GOWN REQUIRED IN THIS AREA. CAUTION: MASK REQUIRED IN THIS AREA. DANGER: EYE PROTECTION REQUIRED HERE. As if she needed reminding that this was a battle zone. She relived her movements, precisely, accurately. Opening the package in one of the hoods: normal glove port precautions. She had taken particular care with the blood. She had spun down the clots, removing the straw-colored serum that was left, dividing the serum into aliquots, with full precautions. She held there, on that memory. You had to be particularly careful with serum. Serum was where you found the viruses. She had taken some of the serum into the Gammacell before diluting and dividing it up for antibody testing. In her mind, she was scrupulous in going through her earlier actions, her care in putting aside the hot stuff to be ferried over to BSL-4 for animal testing. At every step...

I used every precaution!

Kristina let out the breath she didn't even realize she had been holding. With fingers that throbbed, she picked up the desk phone.

It was Will's voice.

She had difficulty telling what he was saying to her. He sounded like he was shouting down the noise of a wind tunnel. He was talking through the radio microphone fitted into his suit.

‘Say it again!’ she spoke into the telephone. ‘I can’t hear you.’

What he was really doing was shouting – it was an automatic compensation for his ear protection and the noise in his suit. She had to hold the telephone slightly away from her ear as she listened again.

‘Can you hear me now?’

‘Yes. I can hear you.’

‘Some of the animals are dead.’ He hesitated a moment: in that same moment her pulse began to race. Will – the Iceberg – was worried. ‘All of those in cages A, B and D. Are those the ones you injected intravenously?’

‘That’s right.’ She had injected mice, rats and guinea pigs.

‘Those in C, E and F have marked induration in the skin over the abdomens. It could be the beginning of the rash. I presume these were intradermal injections?’

‘Yes.’ The terror had returned. She felt her eyelids spring wide open. It was completely automatic. Her voice was a croak:

‘It seems awful fast.’

She imagined the frown of thought that must be creasing his face. She thought: *like goddamn lightning!*

A judder of panic was careening through her. Panic at the sudden realization of something she had overlooked. She mewed, like a cat, at the throb of agony that had invaded the bones of her hands. In her mind, she was back down there: the loading bay, signing for and then picking up the samples. She recalled her actions with a stupendous clarity. That was the only time she had handled anything without wearing gloves. She had picked up the padded envelope, sealed in plastic, with her bare hands.

‘Oh, Jesus!’

‘Kristina - I’m going to have to ask you to come up here and help me do some autopsies.’

Her voice had fallen to a whisper: ‘Okay!’

She heard the telephone cut to dial tone before she dropped it. Her eyes turned to the opened door, lifting up to those small square windows, like goblin eyes in that sheer stretch of reinforced concrete across the atrium. She didn’t even put her hands out to protect herself as the

building became a vortex, crazily spinning, and the floor rose up to meet her.

05: 18/ 06h22

Ake Johansson unhitched the tailgate of his silver Mitsubishi Montero so he could load equipment into it from a four-wheeled cart. The most awkward item was the 1800-06 Microscope Receptor, which looked like a complicated telescope with a lengthy cable that attached it to a keyboard. This was an optical sensor device that would enable him to assess plant foliage densities through radiant energy reflected back from their canopies. He had included a specialized camera that would allow him to tell one type of vegetation from another, avoiding one of the most time-consuming problems in any field sampling exercise. Normally the grad students would have been here to help him but they had been given some days off to attend the tripleA-S meeting in Boston.

'Lucky old them!' Johansson grumbled to himself.

The truth was Johansson didn't really envy the students one bit, any more than he resented the absence of his colleague and co-director of the Field Reserve, Kay McCann. Botany, and evolutionary botany in particular, was Kay's field of expertise and it was her field ecology equipment Johansson was now borrowing to investigate the anomaly.

The anomaly: strange to think about it in such terms. But he couldn't deny those Landsat images he had seen first thing this morning.

Johansson slammed down the tailgate, walked round, opened the driver's door to switch on the engine, then closed it again so the heater would take the morning chill out of the interior while he rattled the cart back to the lab. He decided to leave a message for the departmental secretary, to let her know where he was going and how long he was likely to be out of his office. Michelle wouldn't arrive for almost two hours so he put a blank tape into her Dictaphone and had fun talking to her *in absentia*, an

actor with his soliloquy perching inelegantly on the edge of her desk.

‘Michelle – I’m leaving this message for Kay. In the unlikely event that she calls in from Boston, let her know that I am investigating an anomaly.’ Of course, Michelle wouldn’t understand what he meant by that. If she had been sitting in her chair right now, she would have frowned up at him with bespectacled owliness.

He continued: ‘Things appear to be going slightly crazy on the Landsats in Sector 5-32 so I’m going out there to do some counts.’ Then, smiling impishly because he was unable to resist the urge to titillate Kay’s imagination, he added: ‘You can tell her that we could be witnessing a new paradigm.’

Johansson suppressed a sneeze by squeezing his nose between finger and thumb. But the sneeze just bided its time and came along a moment or two later, so he had to grab hold of the silver cigar-case that was poking out of the breast pocket of his shirt and was in danger of skidding right across the reception floor. Hah! If Michelle had been here, she would certainly have been tutting. Michelle was so goddamn evangelical about smoking. These days the only place where Johansson could smoke his beloved cigars was out in the desert. In a continuation of his theatrical mood, he drew a smoking cigar and placed it under the Dictaphone. Then he strolled out into the morning sun.

He hadn’t traveled more than a quarter mile before he stopped the vehicle and flipped a Havana from the case, lighting it ceremoniously with the heavy-set silver lighter Agnietta had bought him when they were honeymooning all those years ago in Havana. He savored his first puff of the day. These days even Agnietta insisted he enjoyed his cigars outside of her company, so he had come to associate the pleasure of smoking with his passion for the desert. It was a long-term source of regret that Agnietta did not share his love of the desert. But she had suffered his passions for twenty-nine years. For that compromise, for the depth of support he had enjoyed from his otherwise easygoing wife, Ake had made a sacrifice in turn, which was to let Agnietta spend all of her time in their home in LA while he was prepared to spend half his

life in quasi bachelorhood here, whenever it was his turn on the roster to direct the field reserve.

After about forty minutes' driving, he parked on a butte that overlooked Sector 5-32. Stepping down from the vehicle, he lit his second cigar of the morning before striding the thirty yards or so to the edge, scanning the bowl of the valley below him with appreciative eyes. Solitude! It was as if the cool breath of an Olympian god had blown away all of the pollution and bustle of southern California and replenished its true soul, at once harshly primeval and yet exquisitely harmonious. Cigar clamped between his teeth, he returned to the vehicle and spent a few trips ferrying the 1800 equipment to a reasonably level spot on the summit. Over ten minutes or so, he connected the telescope to the spectroradiometer and the latter to the laptop computer that would enable him to do some quick foliage readouts over a range of wavelengths. As the first readout appeared on the screen, he squatted close to the ground so he could cross-reference the results with the printouts he had taken from the Landsat earlier that morning.

He spat the cigar from his mouth and ground it under his heel:

'Skit också!'

It had been a long time since Johansson had sworn in Swedish. Standing erect, he thought about what he had just witnessed.

It just made no sense.

Pacing up and down, he started muttering to himself. *Calm down!* It was no good panicking. He had to consider his logical options. There was so much to be done and he would have to do it all alone. He reprogrammed the equipment to go through a new range of spectra before returning to the vehicle, then reversed in cloud of dust and drove down into the valley.

05: 18/ 07h41

MayEllen Reickhardt was staring up into the face of a bald man in a space suit who had come to give her the bad news. He was an infuriating reminder that she was still incarcerated in the ICU, at the Thirless Memorial Hospital. The bald man wore gold-rimmed eyeglasses inside his heavy plastic helmet. He was breathing from a pump hanging from his belt, attached to a line that put air into the helmet. Introducing himself as Dr. Burke, he informed her that he was the director of epidemiology in the state public health department, at Phoenix.

‘How are you feeling, Mrs. Reickhardt?’

‘Never mind me. How’s Bill?’

‘I’m sorry.’

No surprise there: not really. But the pain that was registering was even worse than she had anticipated. All her dreams, everything, had evaporated right there in those two words expressed by that man with the hooded, bespectacled face.

‘You’re sorry?’ It felt like she was playing some foolish game.

‘Your husband died, earlier this morning.’

Tears burst out of her, in an overwhelming flood. She didn’t try to stop them or to mop them up with a tissue.

‘I know it will be little consolation, but at least the poor man is no longer suffering.’

His words should have offended her but they didn’t. MayEllen had seen the way Bill had looked. That rash on his skin. The smell.

‘Can I get you something? A glass of water?’

She didn’t bother to reply. She was squeezing her eyes tight shut through the tears in an attempt to clear her thoughts. They had given her a double dose of the sleeping capsule, so she felt muzzy. ‘I want to go see him. I want to go see his body.’

‘I’m afraid we can’t let you do that. It’s for your own protection.’

Her face was wrecked, both her nostrils freely running with snot onto her lip. ‘Why not? Where’s Dr. Valero? He’s my doctor.’

‘Dr. Valero is busy with another patient right now.’

A nurse, also suited, tried to wipe her face. When MayEllen stopped her, she compromised by pressing tissues into her hands. MayEllen ordered Burke: ‘Then call him in here. I want to talk to him.’

‘I can’t do that, Mrs. Reickhardt.’

She wiped her face with the wad of tissues. ‘You mean you won’t do it.’

‘Your husband died from a contagious illness. The nature of the infection is still unknown. The cause of death will be established by autopsy.’

‘I haven’t given you permission for any autopsy.’

‘In these circumstances we don’t need your permission.’

‘Where’s my family doctor. I want to talk to Dr. Manning?’

‘Dr. Manning has been admitted.’

Dr. Manning admitted! All strength suddenly gone from her, MayEllen flopped onto her back again. Chills, violent tremblings, were creeping over her. She couldn’t come to terms with what was happening. Suddenly there was a lot of noise in the corridor. It sounded like beds being wheeled by.

‘Is the hospital being evacuated?’

‘No – not at all.’

She thought: *My God – he’s lying to me.*

*

Kay McCann was leaving the breakfast room for the first lecture of the TripleA-S meeting when she saw the message addressed to her on the conference notice board:

**URGENT. CALL PROFESSOR
JOHANNSON**

It was unusual enough to cause a flicker of anxiety. She checked the time on her watch: 8:15 a.m. She went back to her room to get her cell phone, switched it on and

heard two recorded messages, one dated yesterday evening and the other very early in the morning. Both messages asked her to call Ake back. He didn't say what was wrong: he just said, 'We need to talk', and 'There's something of a problem.' She clicked his name in the menu and dialed his number. The machine voice prompt told her his cell phone was switched off. It made no sense. Why would he call her twice, sounding so fired up, and then switch off his cell? Had the problem, whatever it might be, resolved itself? Kay thought about calling Michelle at the Ivan Wallin reception desk, but Michelle didn't start until 8:30 and she never arrived early. Kay decided she would try Ake's office phone, on the off chance he wasn't already out in the desert. Once again she got no answer.

She didn't have time to keep on trying. She had to get to the lecture hall well in advance of the 8:30 kickoff. So she, in turn, left a voicemail message for Ake on the office phone, asking him to call her back after 12:00 noon.

By lunchtime, Ake had failed to call her back. Kay called Michelle: 'I've had two urgent messages to call Ake. I've been trying to get hold of him all morning and he's not answering. Do you have any idea what he wants?'

Michelle sounded her usual insouciant self, breezily informing Kay, 'Ake isn't here. He went out into the reserve early this morning. I had a message on my Dictaphone to say he was looking into a problem. He hasn't got back yet.'

'What's the problem?'

'You know Ake – always clowning about. He did say something about checking out a glitch he'd picked up on the Landsat data. What it was, he didn't say.'

'Can you play back his message?'

'I'm sorry, but I went over it with some more dictation. But I recall he intended to take your 1800 gear with him.'

Kay thought about that. It was unusual, but not incredibly so. Ake must be doing some measurements of plant and insect densities and she had to presume there was nobody from botany to help him.

'What time did he set out?'

'Real early would be my guess.'

Kay took a moment to think about it. Clearly there was a problem serious enough for Ake to contact her. No doubt he'd get back in touch when he got back to his office sometime in the afternoon. If not, she'd call him when she got home late on Saturday.

Unlike Kay, who worked out of Berkeley, Ake was affiliated to UCLA. For close to thirty years, he had been the Roscoe Pound Professor of Ecology. It had been Ake who had founded the Ivan Wallin Field Reserve, bringing together biologists and ecologists from all of the California universities. Kay felt a certain flicker of anxiety in not having gotten hold of Ake. But whatever the problem was, it would keep. In the meantime, she had a meeting to chair at 2.00 p.m.

05: 18/ 14h21

Susan Anne Mackenzie studied her reflection in the smoked glass door of her office in the pathology laboratory at the Thirless Memorial Hospital. It was only the second time in her professional career that she had worn a biosafety suit and the first time had been a practice assignment, under the watchful eyes of the suit suppliers. Since the hospital had adopted the revised Major Disaster Plan, some eighteen months ago, Dr. Mackenzie had been a member of the Major Disaster Response Team.

Now she shuddered.

Chief of histopathology at the hospital, her position wasn't too onerous in the normal run of circumstances. Her research interest was cardiac deaths, a predictable specialization given that heart attacks killed one in five of the overfed local population. But a pathologist at a small town hospital had to be prepared to investigate any kind of illness, including serious infection. And the present case, the case that had precipitated the Major Disaster Response, was almost certainly a contagious infection. There were two questions that needed answering. What was the precise nature of the infection? And how was it communicated?

At six in the morning, Dr. Mackenzie had attended a meeting of the Major Disaster Response Team, where she had represented not only the hospital pathology division but also the State Medical Examiner's Office, to which she was affiliated.

She knew that the intensive care unit was no longer functioning in its normal capacity. It was in the process of being converted into a high-security isolation facility. She also knew that her colleague, Dr. Ricardo Valero, was under investigation on his own unit because three other staff had gone down with the same mysterious illness as the body she was about to examine. Ric was not being

allowed to examine his patients, not until the State Health Department decided he was free of the infection himself. Outside the front façade of the building, the largest fleet of ambulances she had ever seen was shuttling past the main doors as a hundred and eight patients were being moved out of the hospital, post-ops and medical cases that were too sick to be discharged home. They were ferrying people north to Vegas, East to Flagstaff and south to Phoenix. This morning Mackenzie had helped to make that decision, in reluctant support of the decision of the State Public Health officers. She had sat on the committee and voted for it against the apoplectic opposition J.J. Maher, her colleague, and the hospital clinical director.

It had been her involvement in the Major Disaster Response that had delayed the autopsy until the afternoon. Now she waited until Pedro, the mortuary assistant, had wheeled the body out into the center of the floor, above the steel drain.

She started her dictation. ‘The body is that of a large obese male, aged 47 years, height six two and a half, 229 pounds. Signs of antemortem hemorrhage about the mouth, nostrils, ears and eyes.’ The hemorrhage, she knew, was non-specific, and did not necessarily mean a hemorrhagic fever virus. Any disease that destroyed the liver was complicated by hemorrhage. ‘The skin ...’ she clumped in her gum boots around the circumference of the body, ‘the skin exhibits marked antemortem changes of the sort I would normally associate with a body that had been lying for several days in a warm moist environment.’ She raised the pitch of her voice so she would be picked up clearly by the suit’s inbuilt microphone. ‘I would describe it as a confluent marbling, with obvious pockets of gas. Reminiscent of a Fourier’s gangrene – or possibly infection with a gas gangrene organism, such as a *Clostridium*.’ Thinking ahead, to her summary and differential diagnosis, she wondered about an overwhelming infection with a mixed zoo of organisms, the kind of exotic event that might accompany total immunological failure.

Mackenzie had read Valero’s notes before entering the autopsy room. They were cryptic, like a ship’s log in a gale: admission findings, times of change, calls made. She had read them on a sealed tray, which the control of infection

people had autoclaved under two layers of polythene. Even then they had insisted that she wear a virus-proof facemask, eye protection, and two pairs of surgical gloves.

‘Making my initial incision now!’

She placed the scalpel on the skin of the chest, high up to the right under the collarbone. She cut down, making the left upper arm of what would become a great Y-shaped incision, folding back the skin of the chest to enable her to cut out the shield of sternum and the entire front plate of ribs, before carrying the single incision down through the linea alba to the pubic bone. As the turgid flesh gaped, she was unable to stop herself reeling back, with her forearm automatically rising as if to occlude her nostrils.

‘Ah, shit!’

A whiff of putrefaction got to her inside the suit. For a moment it caused her to panic. It shouldn’t have been able to get through to her in the suit. But she dismissed this and wondered if there was some way of increasing the flow of air from the pump attached to her waist.

Pedro was standing back, watching her with owl’s eyes behind his mask. He looked ridiculous with his potbelly protruding through the green plasticized material of the biosafety suit, over which he, like Mackenzie, also wore a black rubberized apron that reached from his neck to his Wellington-clad feet.

‘Let’s get on, shall we!’

With the chest thrown open, she felt her way deep down around the floppy bulk of the lungs to cut through their roots and she waved for Pedro to hoist their oozing bulk out of the body. The lungs looked heavy, more solid than their normal spongy texture and a blackish purple. When he put them on the scales, they weighed almost twice the normal, even for a large male. There was a liquid slap as he flopped them onto the dissection table. Mackenzie used a long-bladed steel knife to slice them, cutting through the flesh at intervals of an inch or so, like a butcher slicing up steaks. The slices oozed chocolate-colored pus over the bright cutting edge of her knife. The liver was the same. Hugely swollen, it bulged out of its capsule as Pedro struggled to get it onto the table. He dumped it heavily, like a ton-weight fleshy balloon, then sluiced its surface with a small plastic hose. When she inserted the point of a scalpel through the glistening

capsule, the balloon exploded, drenching Mackenzie in putrescent slime.

‘Shee—it!’ Pedro, mimicking her own reaction from minutes earlier, was staring at her, his eyes startled, like a horse ready to bolt.

‘Go get the big hose and sluice me down,’ she barked. ‘Start with my visor and then move down over the apron. Go on - for Christ’s sake, do it!’

She stood rigidly in the shower, waiting for the slime to dissolve to pink and then clear away into the floor drain. Mackenzie considered changing her suit. But that was just allowing her anxiety to take control. The suit was designed to protect her against any such transmission through surface contact. But she had to swallow a spurt of saliva before she could speak once more, tersely, into the suit microphone.

‘There appears to be no recognizable liver architecture as such. The entire organ has undergone liquefaction. All I can do is to aspirate some of this for stains and culture. At least we might get some evidence of the causative organism.’ She paused, knowing that her personal assistant, Henrietta, was jotting this down in the comfortable sanity of her office. Under normal circumstances, Mackenzie would comb through the small and large intestines, looking for pathology. But she didn’t feel inclined to follow normal procedures. She shook her head slowly, thinking it through. She said, ‘I’m going to take representative samples from those tissues that are most likely to show the causative agent.’

Certain tissues played a key role when it came to fighting off the invasion of some foreign life form. The liver, the spleen, the bone marrow, the lymph glands. The first changes would be seen in these organs. She planned to take samples for culture and microscopy. Other major organs, such as the guts, the lungs and heart, would also have to be examined and samples taken. And that would have to suffice. She wanted to get out of this suit. She had to suppress the urge to run from the autopsy suite. She knew that biopsy samples had been taken from the skin and liver last night. She would add these to the samples she was now taking, and in this way calibrate the progression of Bill Reickhardt’s disease.

But there was also the brain.

Pedro was clearly thinking the same. He was watching her, with the Stryker saw in his hands. Mackenzie walked around the head to decide where to begin the incision. The scalp, with its thick gray hair, was thrown into sharp contrast by the gangrene affecting the skin. She used a scalpel to cut a circle around the back two thirds of scalp and then peeled it forwards, so it hung down over the face. The hair edge protruded over the concealed chin like an obscene parody of a Puritan beard. She stepped back. Pedro was still standing there, looking at her, as if hoping she would tell him to hold back from cutting into the skull.

Mackenzie swallowed again, deep-breathing to hold down that rising bitter reflux of nausea. There would be an aerosol of bone and tissue before the head was opened up wide, like a capped egg.

‘Go ahead!’

The saw screamed and its arc of blade cut into a skull that seemed to lack its normal bony hardness. The sound was low-pitched and hollow, like a wood saw cutting into a wormy log. Mackenzie tensed herself, anticipating the smell of burning bone.

Just then a sound made her jump. It was the amplified ring of a telephone. Henrietta was talking to her through the speaker in her helmet.

‘I told you I wasn’t to be disturbed.’

‘I’m sorry, Dr. Mackenzie. But it’s the public health people, up in ICU. They want to tell you something important.’

‘Okay – you better put them through.’ Mackenzie stood there staring at Pedro, who was standing as far back as he could from the head incision. The brain was swelling out of the opened skull, like a rancorous semi-liquid cheese in a microwave. She watched it in amazement, as a little of it began to slobber out over the incised bone and flayed scalp, oozing slowly onto the metal table.

‘Susan? Can you hear me?’

‘I hear you.’

‘It’s Jez Burke here. I thought I should inform you about the condition of your colleagues.’

‘Uh-huh?’

For Christ’s sake, don’t say it has gotten to Ric Valero!

‘Thought I should warn you that two of the interns from the Emergency Admission Room have definitely started with the rash. It started on their fingers and worked its way up into the hands and arms.’

The Emergency Room. Mackenzie’s mind began to race. The interns would have been the first to examine Bill Reickhardt on his admission, long before anybody even thought about a contagious infection and sending him up to ICU.

‘What about Valero?’

‘Nothing to worry us as yet. We’re hoping he might be clear. But we’re still keeping him in isolation.’

Mackenzie exhaled.

‘We’ve also located Nurse Ritter. She’s on her way in. She was comatose when we found her.’

He paused for a beat or two, as if inviting her to speak. But Mackenzie couldn’t think of anything to say.

‘Those same changes on her fingers. The involvement of the fingers seems important – suggests penetration of the skin at the point of contact. So I thought you should know about that. Be exceedingly careful with the autopsy. There appears to be a very high risk of nosocomial spread.’

Mackenzie’s heart kept missing beats.

Burke paused again. She could hear his breathing amplified by the speaker system. ‘You realize the implications?’

‘You’re going to investigate me and Pedro when I’ve completed the autopsy.’

His voice softened: ‘If Valero turns out to be okay, I think we’ll find that from the very first examination he took proper safety precautions.’

Mackenzie thought back to that spurt of slime soaking her suit. She rushed over to the wash basin and dropped the scalpel into it with a clatter. She had to steady her hands through leaning on the edge. She tasted another spurt of bile come into her mouth but she forced herself to swallow it back down. There was no way she could possibly be sick inside her suit helmet.

‘Oh, shit and piss!’

A good old pathological expletive!

Wouldn’t Nurse Ritter also have taken safety precautions? And still she had gotten the infection. No!

Mackenzie focused down, mentally calming herself. Common sense suggested an alternative explanation. Ritter must have done something wrong. She had broken the rules in some way. Maybe touched Reickhardt's body before she realized the man was contagious.

Right now, still leaning with both hands against the wash basin, Mackenzie did not feel altogether comforted by her own logic, any more than she felt an altogether professional detachment about what she was doing.

Only yesterday she had made arrangements to have a Sunday brunch with her son, Jason, and seven of his nine-year-old friends at O'Grady's. She had been looking forward to it. The waiters would make a fuss, carrying the birthday cake in high on a platter with nine sparklers burning. Now she wondered if she would ever see Jason again.

05: 21/ 13h50

Los Angeles Police Officer Tad Brentford was humming contentedly to himself. ‘You gotta fish where the fish is!’

His rookie partner, Officer Joanne E. Laing, hooted uproariously.

Brentford was driving the black-and-white through the streets of San Francisco heading east on Alostia out of Glendora. Joanne wasn’t a bad looker. She sported a good full figure, at least that was the considered opinion of this red-blooded male. She also had cuddly brown eyes, inquisitive as a squirrel’s, under neat cropped curly brown hair. Tad was enjoying the mentor role on what would otherwise have promised to be a boring Sunday afternoon. They were following their second call, after visiting the Church of the Little Flower where the priest, Father Brown, had been the victim of a physical assault. His crack-head assailant had ripped the collection box from its plinth and smashed the priest’s skull with it before making off with the one foot square wooden box rattling with small change. Tad and Joanne had shared a few jokes about that as they spent an hour and a half hunting the streets around the church. They had found no sign of crack-head or box. Tad had come away, bemused by the forgiving nature of Father Brown, a bald-headed black man with blood streaming down his face, who had already forgiven his attacker before the ambulance had arrived to take him to the hospital.

When Tad has asked him why he didn’t find a church in a classier neighborhood, Father Brown had uttered those memorable words: ‘You gotta fish where the fish is!’

They took a left onto Foothill, heading towards the National Forest, where a university professor called Johansson lived. Johansson had failed to show up for work at UCLA. People had gotten worried when he and his

wife, Agnietta, didn't answer the telephone. Another professor, name of McCann, would join them at the house.

'Absent minded professors!' Tad shook his head, grinning.

'A few days' research in the company of his secretary.'

'Too absent-minded to let people know?'

Chuckling: 'You got it.'

Here in the leafy suburbs the Sunday streets were quiet, the houses spread out, with large gardens backing onto the pleasant vista. Overhead, the sun had dissipated the smog to reveal a washed blue that would have looked magical if they'd been down to swimsuits and looking up at it from the vantage of a pool and a crate of beers. They were still enjoying each other's jokes when Tad pulled into a wide, cobbled driveway, shaded by eucalyptus. A yellow Wrangler was already parked in the drive and a red-haired woman, wearing a chartreuse silk shirt and knee-length black skirt, was calling to a dog through the wrought-iron bars of two six-foot gates.

*

Kay McCann turned to watch the patrol car park by the side of her Wrangler. Two navy-shirted officers alighted: a middle-aged man, white T-shirt inside open necked short-sleeved shirt, introduced himself as Officer Brentford and his younger companion as Officer Laing.

'You the one who asked us to investigate?'

'Yes, I am. Now that I'm here, I'm even more worried.'

Kay suffered his macho inspection. From his expression, she assumed she passed his "Helen-of-Troy" scale as a face that would launch at least a hundred, if not the mythic thousand, ships.

He asked her, 'You know this Professor Johansson?'

'Ake and I are friends as well as colleagues.' She pronounced the first name in the Swedish way for no reason other than to annoy him, since it must have sounded like somebody attempting clear their throat. 'We cover for each other on the field reserve out on the Mojave. We keep an eye on each other's patch, home and work.'

There was a brass bell on the left-hand gatepost: Officer Brentford was pressing it as he was talking to her. Kay could have told him, if he had troubled to ask her, that there would be no response. She had been pressing it

on and off for five minutes before their arrival. Agnietta's pet dog, Scratch, was barking inside the gates. The small dog – a mongrel Agnietta had rescued from a dog pound, with a patchwork coat of grays and browns – cut a lonely figure in the bone-dry midday heat. Kay watched Brentford inspect the mailbox, where he saw exactly what she had already seen: several newspapers and more than a dozen letters, journals and circulars uncollected from the other side of the wall. The gates were substantial and she waited for macho man to figure out that they were electrically operated.

'You know where we can get hold of the remote?'

Kay dangled it from her right hand. 'I decided I'd better wait until you arrived.' She pressed the button and the gates swung open. Scratch scampered out to greet her, barking excitedly around her legs.

Kay bent down to tickle him under one of his ears. 'Agnietta and her dog, they're real close. I can't imagine her letting him run around wild.' She set out to walk briskly on through the open gates but Brentford held her back. Laing had been looking from side to side at the neighbors' houses and now she shared a glance with her colleague. These were properties with large walled-off gardens that came with the same sort of detachment of mind as the physical separation of the real estate: people who rarely met. She asked Kay, 'This guy, Johansson, should definitely be at home? Not out of town on vacation or at some scientific meeting?'

'He's still supposed to be running things at the field reserve. But I called earlier and was told he left for home late Thursday afternoon.'

Brentford narrowed his eyes at the dog. 'Okay, let's go check it out. But I want you back there behind me – Ma'am.'

Kay grimaced but supposed he was only doing his job. She followed behind the two police officers as they made their winding way through a capacious and very unusual garden. There were no bottlebrush bushes or Bermuda grass, or lemon trees or the bitter orange hedges that people planted as decoratives in the hot dry climate. Bare rocks poked up through the sandy gravel between explosions of cacti. In the clearer areas it was scattered with milkweeds and brittlebush, penstemons and a variety

of succulents, including saguaros and aloes, but the dominating – astonishing – feature was a huge variety of spiny shapes, flowering and non-flowering, that must have appeared unfamiliar ornaments to any visitor. It made her love her friend Ake all the more. Scratch hung back, trotting contentedly by Kay's feet. Her nerves couldn't help but jump as the gates clanged together behind them.

Laing appeared to slow her pace of walking so her partner could scope ahead. They were about halfway down the forty yards of approach when Laing remarked to Kay: 'Those trees - they're desert trees, aren't they?'

'They're ironwoods, yes.' She added, 'Ake brought a piece of the Mojave back into his yard.'

Kay decided she would stay back behind the two officers as they approached the front of the house. The carport, which was off to the left, was capacious, sheltering two vehicles with ample room to spare. Kay saw Ake's dust-grimed silver Mitsubishi Montero parked next to Agnietta's Honda Accord. The cars confirmed that both Ake and Agnietta were home. Scratch was whining in front of the door as they stepped up onto the deck that ran all the way along the front elevation. Officer Brentford rang the bell.

There was no response from inside the house.

Kay stepped back to look along the facing windows. Suddenly she noticed the silence. It was eerie. It wasn't just the house that was silent but the garden too. There should have been bees buzzing, cicadas chirruping – things out there grouching about the heat.

Brentford headed across to a long window opening out of the living room. The curtains had not been drawn back. His nostrils twitched. 'Hey, Joanne – you smell it?'

'What is it?' Laing's voice sounded high-pitched as she came across.

Kay also caught the smell: something rank, the smell of decay. The policewoman bent down to inspect a raised-level flowerbed that ran below the windowsill.

'I think these are geraniums.'

'They weren't here when I last called,' Kay remarked. 'My guess, they were planted by Agnietta.' She joined them in looking down at what should have been an

exuberant display of flowers, but this was a coffin of dead and withered stalks.

‘Very recently planted too!’ Laing pointed to a cluster of black plastic gardening pots, piled up on the deck, next to the raised bed. She touched a trailing black stem with the tip of her index finger. ‘Oh, phfew!’ she squealed.

Kay couldn’t imagine why the policewoman had touched something that looked so putrid. Laing insisted on holding up the tip of her finger to Kay’s nostrils. Kay averted her face. The dead flowers were the cause of the rank smell. To Kay it was eerily disturbing, this box of rotting flowers in the otherwise pristine and well-kept yard. The two women followed Brentford around the house into the back, with the dog barking and scampering around their feet.

Brentford hammered on the back door. No response. He turned the door handle, pushed. The door clicked open.

‘Hey – that’s odd!’ he muttered. ‘You live in LA, you don’t go out leaving the back door unlocked.’

Pushing the door wide, he slipped his Smith and Wesson from its holster, stuck his head into the room, then followed it with his body. A medley of antique Scandinavian furniture decorated the gloom. But there was no sign of life. He sniffed in unison with Kay, who was now only two feet behind him. There was another bad smell, a sickly sweet, disgusting aroma. It added to Kay’s growing unease, that and Scratch’s lonely barking, and the unlocked door. Increasingly nervous, she followed Brentford and her nose to the big square kitchen.

A woman’s body was lying on the floor. Her right arm was stretched out stiffly above her head, as if in parody of hailing a bus.

‘Dear God – Agnietta!’

Kay’s stomach contracted with the stink, which was coming from the decomposing body.

Brentford kept muttering, ‘Jesus H. Christ!’

Kay watched him holster his gun, then inch his way closer. He had to press his kerchief hard against his nose to get within feet of Agnietta’s body. Kay couldn’t stop herself from retching. The body she could see past the probing policeman was black, or at least it was mostly black. Agnietta had been a Scandinavian blonde, with skin

the color of milk. Whatever had killed her, her body had become covered with something horrible and black, like a fungus.

‘You know what I’m thinking?’ Brentford looked like a man struggling to control his own panic. ‘This morning I read a bulletin about that mystery illness broke out in Arizona.’

Kay watched in horror as he poked at the blue-black scalp under the disarrayed blonde hair with the tip of a ballpoint pen.

‘My wife’s sister, Bernice – she lives in Flagstaff. So Milli calls Bernice. They’re talking about what’s goin’ on. Bernice, she’s a nurse, is convinced it’s the plague. Got to be, she says, because plague turns folks’ skin black. Did you know that, Professor? You know the old name for bubonic plague was the “black death”?’

Kay felt disinclined to answer. Her stomach was cramping up in waves, bringing spurts of vomit into her throat. Suddenly Brentford reared back, almost toppling the two women pressed up behind him. ‘Oh, Jesus – fuck!’ The blue-black scalp had detached with a tearing sound. They could see smooth white bone, the top of Agnietta’s skull, oozing a straw-colored oily plasma. Brentford pushed them back into the living-room, retching himself. All three of them were close to hysteria.

Brentford was talking to himself: ‘Arizona isn’t very far from Southern California. And now it looks like we got that same bubonic plague.’

Abruptly, as if realizing what he was saying, he wheeled round and put an arm around Kay’s shoulders, manhandling her towards the open back door. Officer Laing had beaten them to it. She was down on one knee in the yard with a bundle of tissues held to her mouth. She said,

‘Damnation, Tad, my fingers are burning. I wish I hadn’t touched the rotten plants.’

Kay’s thighs were jerking and trembling.

Brentford looked from Kay to Laing and then back again, shaking his head. ‘Look – hey, Joanne – I want you to leave this to me. Why don’t you stay with the professor out here in the yard.’

Laing shook her head, determined to accompany him.

‘Then you better keep your mouth closed and press the tissues against your nose.’ He walked through the broad expanse of living room and into the corridor leading to the stairs. At the foot of the stairs, he swallowed hard, took several breaths, and then started to ascend. Laing just stood there in the hallway. Kay skirted the policewoman and she followed Brentford, pressing her handkerchief up tight against her nose.

On the queen-size bed in one of the two spacious bedrooms they found Ake’s body, also bloated and black.

‘Aw, shi—it!’

‘What is it?’ Kay gasped, unable to take a step closer.

‘Flies, Ma’am! I’ve been called to a good many dead bodies in my time. But good God Almighty – I’ve never seen so many dead flies!’

2

The Field Reserve

Top Secret
Operation Globalnet
Surveillance Mode: E-mail
Retrograde analysis: Index minus 15/12
DELICATE SOURCE: RESTRICTION CODE:
eyes alpha
L of E/ he→ee

Dear Lyse,

I'm sorry we couldn't get together for Thanksgiving. And now it's the New Year and I haven't seen my little granddaughter in ages. Tell Penny and Martin that I've been asking about Simone. Her photograph takes pride of place on my desk, among the mosquitoes and the ants.

I should be able to get home soon. A few more months of concentrated effort and we'll all be ready for a two-week vacation - I promise.

Things are looking so much better, after all those initial misgivings. Ahmed's work on maize is very promising – also Chan's work on rice. I'm optimistic in both cases. The blessing of a hot climate is the fact that you can grow things quickly. You can alternate two separate crop cycles in one year. This has speeded everything up no end. The compound is so big now we could feed a small town. And progress - you wouldn't believe the progress we have made! We're expanding so fast we've had to double the number of dormitories and even these are becoming overcrowded. We've had to recruit tech labor locally, though the nearest city is almost two hundred miles away with nothing but sand in between. Even E.S., after that spiteful episode with Nancy Chong, when she refused to hop into bed with him, is showing signs of knuckling down. I only wish that his tact with his scientific team would match his hands-on ability with molecular technology. The fellow is undoubtedly a wayward genius.

I'm not one to get overly excited, but we have made a breakthrough - I don't think it's an exaggeration to call it a new biological

paradigm. I'd love to say more but I'm not supposed to talk about it. E.S. has pioneered new organic vectors in the eight months we have been here. We have abandoned microprojectiles. Spectacular nano linkups with bioinformatics. There are radically new structure-class charts sprouting along the entire lengths of the corridor walls!

Of course it's a double-edged sword. The more exciting it becomes, the harder we work – and the more poignant the separation from you.

Lyse – there's a possibility – I hardly dare to mention it – but I have begun to hope we might be able to help people like Simone.

*Love
H.*

05: 22/ 06h55

‘Gooooood morning, all you good folks out there! This is your favorite radio host, TeeJay Nieman, on K-V-A-L. The station that gives it to you straight, no pre-recording, no editing, the Voice of America Live.

‘So what have we got for you on this bright and cheerful Monday morning? Well, let me tell you – do I have something for you. A tale for those of you now traveling to work on those congested turnpikes and highways. With me here, in the studio, is MayEllen Reickhardt. Say hello to America, MayEllen!’

There was a muffled grunt.

Thirty yards from the shoreline of Lake Mead, Nevada, a man listened to radio with interest, tilting back the hand-stitched leather seats of a flame-red Ferrari 575M Maranello. Outside of the tinted windows, the morning was cold so he kept the engine idling and the heater running.

The strident male voice over the radio continued: ‘Now don’t be bashful. Say it again, loud and clear, so all those listeners out there can hear you!’

‘Hello!’ the woman’s voice said, a little louder. It was a deep voice for a woman, audibly nervous.

The driver’s fingers tapped on the matte-black carbon fiber that surrounded the dash and his eyes relaxed on the mist-shrouded lake at the bottom of a gentle slope that was planted with decorative shrubs. He had arrived early and now he had to wait. He wasn’t gifted with a natural patience. The radio was a welcome distraction.

‘We’re going to hear MayEllen’s story right after the jingle, so don’t go away, folks. You know this mystery epidemic that’s going around and frightening us all to death? Well, she has something to tell you that will make your hair curl. So hold tight there and we’ll be right back.’

*

Kay McCann, heading south with her son, Sean, from their home in Beverley, was tuned to the same wacky desert radio station. While glued to the program, it made her feel decidedly jumpy. And now they had cut to the advertising, the volume had been hiked up a couple of notches. She turned it right down.

‘Aw, Mom!’ Sean, who was wearing his Lakers 2002 Champions T-shirt, curled up his right leg onto the seat and groaned.

‘Just for the interval. It’s interfering with my concentration. Deal?’

‘Oooo-kaaay!’

She reached over and ruffled the upstanding mop of golden hair on her twelve-year-old son’s head. Sean grimaced and shook her off.

Kay flicked the blinker to warn the madman close on her tail that she was turning right. The Wrangler had been a big mistake. She had allowed herself to be persuaded by the incipient puberty of a 12-year-old boy. Driven by a flame-haired woman, the bright yellow automobile was a pheromone come-on for aggressive males, and the roads seemed to be chock full of them this morning. She was relieved to get off the congested 580 and heading onto Interstate 5.

Sean lost interest in the radio station for the two or three minutes they devoted to advertising. He turned to look at his mother across the wide cabin with a mixture of curiosity and fear in his blue-green eyes. He had helped her pack the food and the changes of clothes. She had just pulled everything out of the kitchen cupboards, the freezer, cleared the drawers and hanging racks in the closet.

‘Are they really going to close down UCLA, Mom?’

‘I hope not.’

‘They closing down Berkeley too?’

‘You hoping I won’t have to go back and we can live wild on the field reserve for good? There’d be no money to buy new computer games.’ She laughed at his chagrined expression. ‘Nah! Only kidding. It’s not such a big deal as some folks are making out. There’ve been one or two incidents –’

‘The man on the radio called it a plague.’

'He's exaggerating. One or two people died and people are getting jumpy – that's all it is.'

'Was that what the police called you about?'

'Something happened to a policewoman I met.'

'Did she die?'

'Yes - yes, she did.' Joanne: she recalled her name. Kay hadn't known that she'd died until she'd taken the call from the public health nurse in LA, who had frightened her by asking her questions of how she felt.

Sean looked over at her again. 'Like Ake?'

The man's voice on the radio cut through her need to reply. She restored the volume and heard him prompt his guest.

'MayEllen, let's talk some more about your late husband.'

'My husband, Bill,' she said. The woman sounded badly shaken. But then she added, in a rising voice: 'Some of you folks listening to this will have known my husband, Bill Reickhardt. We ran the M&B Cactus Farm outside Thirless for twenty years. My husband was the first person to get this mystery plague that's in all of the papers right now. I just come out of the ICU in Thirless Memorial Hospital, where I spent four godawful days.'

'Did you catch this bug?'

'No. I've been fine all along. But the doctors insisted on keeping me in hospital, kind of like a precaution.'

'They didn't want to let you go?'

'No, they didn't'

'You took your discharge? Against the advice of the doctors?'

'I took my discharge because there was nothing wrong with me. But my husband, Bill, died in that same ICU. I want to tell you folks how he died, and I'll have to warn you it wasn't pleasant. His skin turned black. He made awful moaning noises. The doctors didn't know what was wrong with him. I don't think it's right in this day and age that a man should have to die like that.'

Sean's eyes were round as a bug's. 'What's a plague, Mom?'

'A plague is an infection that kills a lot of people. But that's not what's happening here at all. We just have some people who died.'

'Spooky!'

Kay wasn't surprised that Sean felt scared. Ake wasn't he only academic to die. Eleven students and one assistant professor had also died at UCLA. From what she could gather from the television and newspapers, the deaths had been accumulating before anyone had connected what was happening in LA with what was happening in Arizona. Nobody had come up with any kind of explanation. 'And besides,' she said brightly, 'I can carry on working at the field station even while they're checking out all the Californian universities. Then we can go back to normal as soon as they have it all sorted out.'

'Yeah?' He almost sounded disappointed.

'You better believe it.'

But did *she* believe it?

A constriction tightened around her chest whenever she thought about Ake. He had sent her urgent messages and she had been more concerned with the tripleA-S meeting. How had she been so stupid? Ake never got in touch like that unless it was something urgent. *We have something of a problem!* His Swedish ancestry showing: no need for panic here, folks, only a plague! No - she didn't want to think along those lines. Something serious, no doubt about that. But it wasn't a plague, by any stretch of the imagination. Not with just thirteen or so people affected in the whole of LA. But were the authorities telling people the truth? Why, according to the media, were teams of public health doctors invading the university?

The man on the radio asked, 'Had Bill been sick for a while, MayEllen?'

'My Bill never had a day's illness in his life, except for the usual colds and things.'

'Did you say his skin turned black?'

'I had just set out to take some cacti down to Phoenix and I called him. I thought it was just flu. Then he made these terrible retching noises. I knew right then that something serious was wrong. I knew it had to be something real bad the matter with him.'

'Did you say he was making moaning noises?'

'That was later on, when he was in the hospital.'

'He was making these real strange noises?'

'Didn't sound like Bill at all. Didn't hardly sound human, those awful noises.'

‘And then his skin turned black?’

‘That’s right.’

‘Now let me get this straight. Bill was a white man before he turned into a black man – right?’

Kay turned the radio off before Sean got nightmares.

‘Aw, Mom!’

‘Okay – so let’s talk about it rationally. This isn’t a real plague. Not like the plagues they used to have long ago. There was a very famous plague back in 1666. The year of the great fire of London. Over there in England they had the big fire and the plague in the very same year.’

‘They did?’

‘Sure did. And they had to close down Cambridge University. You know who was an undergrad student then, at the university? Only the most famous scientist who ever lived - good old Isaac Newton.’

‘I thought the most famous scientist was Albert Einstein.’

‘Well, maybe there’s room for two most famous scientists. Until Einstein came along, Newton was the guy. And Newton had to run away from Cambridge because of the bubonic plague.’

‘Just like we’re running away from Berkeley?’

‘We’re not running away. It’s just that things are a little mixed up right now. Ake should be running things down there. I have to take over his duties for a little while.’

‘Cool!’

*

An approaching plume of dust heralded the arrival of a second vehicle. The man in the Ferrari watched it drive up, a charcoal gray Lincoln Navigator. He guessed it had been clean when they had set out from LA, but now it was caked in dust, most of it, he guessed, from when they had left the road and followed the trail of his tires leading down to the lake. It swept round him in a wide arc, showering the desert with petals from the bushes decorating the slopes. Flocks of dun-colored birds, smaller than sparrows, scattered, then wheeled in indignant circles out over the lake as the Lincoln came to a halt alongside the Ferrari.

He cut the engine, waited and watched.

Two men stepped out of the Lincoln. The smaller of the two was dark-complexioned, like an Italian. He wore a

black Marine Corps baseball cap with a gold-embroidered logo, the bill pulled down low over deep-set brown eyes. Military tattoos encircled his upper arms. His partner, the car driver, was massively tall and broad across the shoulders. His hair was sun-bleached tawny, with a ponytail held back by a clasp of Navajo silver. It was the big man who opened the passenger door to a woman, who was rail-thin and cat-lithe in her movements.

The waiting man studied the woman with particular interest. He hadn't met her before, although they had talked on several occasions over the telephone.

In the flesh, she looked younger than he had expected, maybe early thirties, which put her five or six years younger than himself. It delighted him to find her magnetically attractive, with platinum blonde hair to the level of her chin. She wore a tailored suit light tan in color, the skirt riding high over magnificent tanned thighs that left him gasping in awe. The men were gorillas. Their legs stretched the fabric of their jeans and their denim shirts had their sleeves torn off to show their muscles. Donning an ivory-colored Panama and wraparound shades, the waiting man stepped out of the Ferrari, all of his senses attuned to their body language and expressions.

The gorillas didn't like the fact they couldn't make out his face.

Closer up, the woman's eyes were coolly assessing. Her handshake was probing. When she spoke, it was with a twangy accent.

She said, 'For communication purposes, you can call me Sam.'

'For those same purposes you can call me Ray!'

He knew her real name: Nora Seiffert. In fact he knew all he needed to know about the entire murderous band. Small-time gangsters desperate for a chance at the big money. Ponytail was Jamie Lee Weiss and his wiry tattooed sidekick was Tony Moldano. Both were ex-marines, discharged through dishonorable conduct. This was knowledge he kept under his Panama hat.

She nodded: 'Okay - Ray!'

The gorillas smirked.

He hauled a bulky aluminum case out of the trunk of his Ferrari and headed down the gradient of shale in the

direction of the lake. They walked the thirty yards in silence until they were standing at the edge of the water.

Ray said, 'Okay – so let's talk business.'

'You got all of my attention.'

'I want a few things understood before we discuss the details. I don't want anybody else to know that we *have* had any kind of deal. Agreed?'

She shrugged, taking a black Sobranie from a packet she lifted from her jacket pocket, plugging it into her mouth, getting ready to light it.

He frowned. 'Do you mind? I don't want you blowing smoke in my face.'

A confrontation of gazes: he enjoyed that. It was just as well she couldn't see the exhilaration in his eyes. With labored slowness, she took the cigarette out of her mouth, keeping face-to-face contact all the time. 'You're paying.'

*

On Interstate 5, Kay McCann sighed, reassured by the sign to Bakersfield. From here she took the 58 towards Barstow. The traffic was only marginally better and the journey was becoming increasingly stressful. The radio was back on. Glancing over at Sean, she saw that he was enthralled. The man on the radio was making much of the fact that the plague had turned a white man into a black man. Those wackos sure knew how to pitch it so they got you hooked on the wildest notions!

But still, she recognized similarities with what she had seen at Ake's house. Ake's skin had turned black, and so had Agnietta's.

She turned down the volume again, so she could think.

There was an unreal feeling to this morning, had been ever since first rising. It was as if all nine and a half million people who lived in LA had suddenly grown neurotic about their own safety and survival. This man they were talking about on the radio, Bill Reickhardt, had clearly died from the same illness that had killed Ake and Agnietta - and the policewoman, Joanne. It was clearly some contagious illness. Joanne had fingered the dead geraniums under the back window of Ake's house. Then she had complained about her fingers being painful. She had been wiping her hand on her tunic just before she put

her arm around Kay's shoulders, to reassure her, when all three of them had finally come back out into the garden.

She wiped her fingers then put them on me! Kay could not suppress a shiver of suppressed panic.

Sean reached out to turn up the dial. Kay slapped his hand away, a little harder than she intended.

'Aw – Moommm!'

Let him sulk. It was important she thought this out clearly.

Of course the impression was that the medical authorities would soon have it under control. Nearly all the cases had been linked to UCLA. That was why they had descended on the university like that. A preventive measure, sensible under the circumstances, even if it was also a little frightening. The city districts had all gotten their acts together. There was a committee of experts meeting once a day, issuing bulletins. And all this for just thirteen or so deaths!

Kay rubbed at her brow once again, distractedly. It was easy to let yourself get eaten up by suspicion.

'You hit me!'

'I did not hit you.'

'You hit me, Mom!'

Kay shook her head, feeling increasingly wound up.

At least a third of the vehicles traveling with her were trucks and RVs loaded up with cans and preserves, like they were expecting to be away from home for a while. Paranoia! She rubbed harder at her brow. To date Berkeley was unaffected. Nevertheless, no matter how she dressed it up as continuing to work outside of the department, in actuality she was running too. Her 4x4 was loaded up, pretty much to full capacity.

'You did hit me, mom!'

'I didn't mean to hit you. I apologize – honestly?'

He shrugged, then looked at her. 'I can't hear what they're saying!'

'Go ahead – turn it up.'

*

Ray opened up the aluminum case, took a folder out of the lid and then passed the case and its remaining contents to the pony-tailed gorilla. Handing the folder to the woman, he studied her reaction. She took her time, examining a list of names, details of occupations and addresses. She

looked at the photographs. She whistled at some of the personalities.

‘There’s one more hit than I was expecting.’

He said, ‘Is it a problem?’

‘There’s no need for it to be a problem. Problems always come down to a question of cost.’

‘There’s \$250,000 in the case. That’s \$50,000 more than we agreed up-front. I’m willing to equal that if and when you get the job done quickly and efficiently.’

Her eyes widened – Jesus, he got off on the neediness there – as she returned to inspecting the hit instructions in more detail. ‘There’s a body you don’t want found?’

He shrugged. ‘I have my reasons. He just needs to disappear.’

‘Like he just walked?’

‘Exactly.’

She turned to Ponytail who had finished counting the money. He nodded. ‘Two-fifty, like he said.’ He closed the case and snapped it shut.

Ray said, ‘Well?’

‘You’re expecting us to be kinda trusting.’

Ray hesitated. Her reaction was unexpected. He didn’t like it. All of a sudden his instincts prickled.

He said, ‘What’s the problem?’

‘We’d like to know who we’re working for.’

‘That was never part of the deal.’

The gorillas stood absolutely still, their eyes on the woman.

She looked at Ray for several seconds, her eyes narrowed as if trying to penetrate the shades. ‘Okay,’ she exhaled in a throaty purr. ‘So how do we get in touch when the rest is due?’

‘You’ll get it when the job’s complete. And I’ll know. Don’t worry!’

‘Problem is I am a worrier.’

That overwhelming instinct again. Had he miscalculated the dominating nature of their greed?

‘That’s the deal. Take it or leave it.’

‘I got a better idea.’ She nodded to Ponytail, who removed a slim black cell phone from his hip pocket and handed it to Ray. ‘It’s brand new, unregistered. All you gotta do is keep it switched on. *We’ll call you* when the job’s complete.’

He caught the fleeting look of triumph in Ponytail's eyes as he passed the cell phone. 'So now I'm expected to trust you?'

'There's risks here that cut both ways – right? How do we know for certain that you'll pay us the rest?'

The tattooed gorilla was staring up the slope. The focus of his gaze was the Ferrari. Ray was taken by surprise again at the developing situation. It occurred to him that they could kill him, take the money and run.

'You and me both, we have to figure the odds. You've got \$250,000 dollars worth of trust on my part. You'll get the rest. A grand total of half a million dollars when the job is done. We're going to have to trust each other.'

She slipped the cigarette from the packet, lighting it, taking her time about the action. She smiled at him, a predatory smile, as unrelenting as the cut of her skirt. She stared at him, still smiling, and then she blew out smoke in his face.

'You're the boss – *Ray!*'

*

'Heeeeyyyy! You folks out there! Stay tuned right now! You should be listening to this.' Kay McCann couldn't help but listen to the raucous voice coming over the radio. 'We got a woman, MayEllen Reickhardt, here in our studio and she has gone through hell and worse. This is no set-up. This is for real and it is live, on K-V-A-L. MayEllen, tell me – and all those folks who are listening to your story – what you and your friend, Lucille, just told me during the interval. The doctors told you they didn't know what was wrong with your husband.'

'They never told me nothing.'

'They never even gave you a proper death certificate, so you could bury Bill's body with proper dignity?'

'No, sir.'

'Well, there you have it folks. K-V-A-L has exposed it. There is a plague threatening America. And now we know how it first showed up. A living death in the first man to get it. And his illness happened after he dug up a UFO circle in his cactus field. I guess that now we're really getting somewhere. Hell, maybe now we can begin to put two and two together. And do you know the question that comes to my mind, and I guess it comes to your minds too? Secret meetings involving the medical authorities,

those same people who wouldn't tell MayEllen the truth about her own husband's death. Those same people who kept her locked up in that hospital for four days against her will. Are those guys still keeping the truth from us the way they always do?'

An eerie closing jingle began to sound in the background and Tee-Jay Nieman dropped the pitch of his voice to a suggestive whisper. 'As we say goodbye to you on this bright and sunny May morning, ask yourself this question over your cup of decaf:

'Is America in the grip of a deadly Zombie Plague?'

05: 22/ 09h17

It was a relief for Kay to abandon the road, rattling and bumping over a dirt track that wound through a juniper-clad arroyo. Her vehicle was soon out of sight of the highway. She passed by a cluster of 1950s-style wood-framed offices, a rangers' station long defunct. After another eight miles of winding travel, the track dead-ended at a security gate in a seven-foot steel and mesh fence that stretched to the horizon on either side. There was a buzzer for visitors and a sign, IVAN WALLIN FLD RES. As she stood ready to open it, she thought again about Ake – the fact that he had been so desperate to get hold of her. Her hand shook as she swiped the lock and the gate swung back. She drove on through, watching in the rear-view mirror as the gate clicked shut behind her.

After a further half-mile drive through desert scrub, she arrived at a three-sided enclosure of single-story cinderblock buildings. She pulled into the large central parking lot, where there were about twenty vehicles, mostly 4x4s and pick-ups, randomly spread over the asphalt. Close to the glazed entry into the main reception, she tooted the horn. Two young men, grad students dressed in cargo shorts and T-shirts, came out to help her. They unloaded the food and beers onto a cart, leaving Kay and Sean to deal with personal items. Andy Yang, the Malaysian EM tech, came out to pester her. He was pleading with her to let him bring his latest girlfriend to join him here at the reserve.

'Not now.'

'She's a sweetheart. Wouldn't be any trouble. She could help out with things. Hey - she's a wonderful cook.'

'Forget it, Andy!'

Kay had no intention of encouraging his sexual adventures. Let him do what he had done with other

girlfriends in the past. He would put her up at one of the cheap motels off the nearby highway.

As Yang headed off in a stew, Kay entered the building, looking for Michelle at her desk in the lobby. She found her at the center of a throng of people, all recent arrivals judging by the bags and boxes lying around the floor. Normally the field reserve was an oasis of tranquility, with no more than twenty or so scientists and students working quietly. Today there seemed to be far too many people milling around. Michelle, wearing bright blue framed eyeglasses, was blowing her nose into a bunch of tissues while answering the queries of several at once. Kay pushed her way through.

‘Oh, Kay! Things are going crazy. You got messages - voicemail, fax and e-mail.’

‘Anything important?’

‘Mike – wanting to know that Sean’s okay.’

Kay exhaled. The last thing she needed now was an emotionally draining conversation with her ex-husband.

‘It’s natural he’s worried.’ Michelle had always had a soft spot for Mike.

‘Anything else?’

‘We got a crisis in entomology. You heard the awful news about Ake?’

‘I know, Michelle. I was with the police when they found him.’

Michelle had taken off her eyeglasses and was wiping them clean with a steri swab. Her nose was red and her eyes were pink-rimmed. Now her lips trembled as, in the background, a man began shouting. Kay recognized the voice of Jimi Pocock. He was a flaky assistant professor in zoology at Davis whose main interest was rodents. Somebody had taken some of his traps. Pocock was waving a Browning semi-automatic in the air, declaring that he knew how to deal with people stealing his traps. Kay stormed over to Pocock and snatched the gun out of his hand. Raising her voice above the excited babble, she warned them all: ‘If anybody else has brought anything similar into this field reserve they can either head straight on home or hand it to me to be put in the safe.’ She glared at Pocock. ‘Have I made myself clear?’

Back in her office-cum-living quarters, Kay took advantage of the fact Sean was rummaging around in the

bedroom to stare at the ugly squat shape of the gun. Unbelievable! She had no option but to talk to Pocock's boss and have him grounded. But now, with the sounds of Sean ready to emerge from the bedroom, she shoved the pistol and clip into the safe, spun the lock. When she turned around, Sean was watching her from the open bedroom doorway.

She said, 'You know what we need?'

He read what was coming: a bear hug.

'Knock it off, Mom!'

He dodged around her, heading for the glass jar with the quarters that would enable him to wallow in drinks at the dispensing machine in the R&R room. She laughed after him as he scuttled out through the door and down the long corridor, decorated with project posters.

Normality was what she needed. But she very much doubted that she was going to find it. *Ake – trying to get hold of her!* She called Michelle, asking her to join her for a more private talk.

'What's happening in entomology?' She recalled that Ake had said something about a problem, some kind of anomaly.

'I know that Ake was in his office, looking at the latest Landsat pictures before he left for home on Thursday. He was only back here half an hour before he took off again. He looked to me like he had a touch of the flu.' Michelle looked up at her, her chestnut hair cut boyishly short. 'Now people are talking about wildly fluctuating bug counts, I don't rightly know what, from some of his ICDITDs.'

'Who's talking?'

'I've had two grad students, Sara Goldsmith and Sameeha Prakesh, anxious to discuss their project with you.'

Kay knew the students and their project. She had helped Ake to plan their co-evolutionary population dynamics methodology. 'Okay. Let them know that I'll take over whatever Ake was going to do with them.'

'When?'

'Not right now. Maybe tomorrow.'

Kay shook other worries out of her head so she could think straight about Ake Johansson.

'What time did Ake come back here on Thursday?'

‘Mid-afternoon.’

‘He talk to you?’

‘Only to say he wasn’t feeling so good.’

For a moment, the awful thought went through Kay’s mind: Ake was already harboring the disease that had killed him. ‘What else did he talk about? Try to remember. Did he say anything specific?’

‘He mumbled something, but I didn’t get it.’

Kay waited a moment or two, but Michelle was unforthcoming.

‘What were his words, exactly?’

Michelle blew her nose. ‘He was kind of excited. You know Ake - he didn’t let you see he was excited but I could tell. Impression I had, he’d seen something unusual out there. Something he called a para something.’

‘A para what?’

‘He used a word I’m not familiar with. A para ... para... whatever.’

‘Come on, Michelle. It might be important.’

‘I wish I could recall. But I think it was something to do with evolution. An evolutionary para something-or-other. That I do recall - he was only here about half an hour and then he went home.’ Michelle blew her nose again.

Kay couldn’t help being puzzled. Ake had spotted something. Now he was dead, before he could explain to her what was so important.

She thought back to the horror of finding the two bodies. The dead geraniums – the flies! Should she call up the medical authorities? See if it was significant? *The Zombie Plague!* That wacky name was going to catch on.

Michelle wailed, ‘Oh, Kay! We’re all terrified. We don’t know what to do.’

‘What we need to do is carry on as normal. Why don’t you e-mail Mike for me.’ God knows, she had to force herself to calm down from her own emotional state. ‘Let him know that Sean’s okay. Tell him I’ll get Sean to ring him once he’s settled in.’

*

Susan Ann Mackenzie found Ric Valero in his office on the ICU. He was sitting in the half gloom, his face reflecting the milky white light of the x-ray viewing boxes on which he had mounted a series of chest films, all showing

whiteouts. On a sudden impulse, Ric stretched out his hands and asked her to place a sheet of paper on top of them. She did so and they watched as the paper jerked and trembled.

‘I don’t know how much is caffeine - I’ve been drinking coffee all day to keep me awake - and how much is paranoia.’

She slumped down in an adjacent chair. ‘If I put out my hands, I wouldn’t need the sheet of paper!’

He said, ‘I’ve seen almost nothing of home in the past five days.’

‘You’re going to have to delegate. If you don’t demand help, those guys in admin won’t give it to you.’

‘Do you think I don’t know?’ He lifted his hands, as in apology, before wiping his face down with them.

Susan thought there was something different about him, something in his manner, the excited look in his eyes.

‘What’s going on,’ he said, with a note of amazement in his voice, ‘it’s really incredible. In the cases of Manning, the intern staff, Nurse Ritter - and from what I’ve gathered about the tech who died in Special Pathogens at CDC - infection entered through the fingers, at a time when they didn’t realize the hazard of contagion through skin contact.’

She answered flatly, ‘It also means transmission can be prevented if people avoided skin contact with anybody who was infected.’

He blew out his cheeks, let the air out in a puff. He began taking a series of x-rays down from the viewers. ‘How much further have you got, Susie?’

‘I can tell you where we are with cultures and serology. Bacterial plates, including special stains for beta hemolytic strep, staphylococcus and clostridia, have all stayed negative. So has the serology.’

‘So we are not dealing with a flesh-eating bug?’

‘No way.’

‘Or bubonic plague?’

‘All tests have drawn a blank.’

‘Viruses?’

‘Viruses are problematic. You can screen for them using standard serology. But that only works with established viruses. To date serology has proved negative.’

Ric gripped his nose between forefinger and thumb, sniffed, blinked the tiredness out of his eyes. 'I can add something really bizarre. There's no antibody response at any stage in the disease. None. In fact it's the exact opposite. Every hematological parameter just nosedives into a spectacular crash.'

'This is getting scary.'

'It's like the bone marrow just went belly up.'

Susan studied Ric again, his face like chalk in the pallid light. Yes, she thought, he definitely looks more excited than petrified. It didn't seem to be getting to him as much as it was to her. She was unable to stop her hands from twitching, even when they were supposed to be at rest. 'The histology,' she added, 'is just the same. More bizarre than anything I have ever seen. I can't find anything useful from the autopsy specimens, because of the advanced state of decay. It's unbelievable that even the biopsy samples I'm looking at came from a patient when he was still alive.'

Ric shook his head.

Susan looked at him directly. 'You understand what I'm saying? Every cell in these people's bodies appears to be dying, before any failure of the heart or the brain or the lungs, or any other vital organ. It's the most disturbing thing I've encountered in all of my professional life.'

'Where does the disease process begin in the cells?'

'The mitochondria.'

'The mitochondria?'

'It slate wipes them, Ric.'

'Jesus, Susie!'

She shook her head. 'You don't get much in the way of common diseases that affect mitochondria. It's rare stuff, mainly muscle and neurological disorders.'

'Hereditary?'

'Some really bizarre syndromes. Even some links to the aging process. It seems to be down to the fact they have their own DNA, separate from the nucleus.'

He said, 'They do?'

'Hey, you won't believe this, but mitochondria even cause problems with excessive bleeding after cuts affecting astronauts in space.'

'That's interesting.'

‘Sure,’ she said. ‘But nothing remotely resembling what we’re seeing.’

‘Oh, man!’

Mackenzie’s gaze flattened. ‘I have something to tell you, Ric. I’ve had it with this. I’m heading out.’

He looked at her, with his Homer Simpson slack-jaw mouth. This was the familiar Ric, the clowning colleague she recognized from years of friendship. ‘Aw – c’mon! You don’t really mean that?’

She shook her head. ‘I just can’t hack it any more. I mean, this is awful – this thing. We’ve been lucky so far. But we keep getting exposed –’

‘Nah! You can’t be heading out.’

‘I’m leaving, Ric.’

‘Leaving for where?’

‘Halifax, Nova Scotia.’

The tone in her voice was definite enough to worry him. He was close to shouting. ‘You’re clearing off to go work with your brother?’

‘Larry’s concerned about me.’

‘Shit – Susie! We need you here.’

‘I have a family.’

‘So do I.’

‘Ric, I’m sorry.’ She had hoped it would be calm and rational. But she could see now that it wasn’t going to work like that. She just left her papers and hurried from the viewing room.

Ric chased her, as far as the door. She could hear him yelling after her through the thirty yards of corridor, but his voice sounded in some distant part of her mind, the kind of place where you put the memories you didn’t ever want to find again.

05: 22/ 12h58

Will Grant was running late when he found himself squeezed uncomfortably close to Evelyn Maurice, head of Epidemic Intelligence Service, in the overfull elevator heading for the admin block. Maurice had just gotten back from leading the investigative team in the Southwest. They arrived together at the office of Aaron Kronstein, the CDC director. Clara, Kronstein's PA, waved them into the adjoining conference room, where they found the departmental heads already linked into a video discussion with a bald man wearing gold-rimmed eyeglasses. There were individual video monitors in the allocated places around the table. Even before he was seated, Will recognized the man on the monitor as Dr. Jez Burke, the epidemiologist from Phoenix.

Kronstein deflected from his conversation with Burke to address Will. 'It seems we could be facing a new twist to the problem.'

Will heard Burke explain how he had worked with colleagues in LA to draw up epi charts, contact tracing maps of how the epidemic was spreading locally. There was a murmur around the table as people on the periphery of the investigation became aware of the actual figures but they hardly came as a surprise to Will. In all, covering Arizona, LA and Kristina here in Atlanta, the total number of cases, all of them fatalities, amounted to 37. Kristina's death had deeply shocked Will. It had shocked everybody working at the CDC. Of the 37 fatalities, 16 were in LA and the remaining 20 in or about Thirless. The sporadic nature of the outbreaks complicated the epidemiology and so Burke suggested that they print out what he was now sending down the line. Within minutes, Will, like everybody else in the committee room, was handed copies by Clara. The bundle was 32 pages thick.

Like most doctors employed in the American Public Health Service, Burke had spent some time training in EIS at CDC. His report was thorough. Apart from Kristina's case, which had a number of unusual features about it, there had been nine separate mini-outbreaks, two in LA, one centered on UCLA, and the remaining seven in Northwest Arizona. The nine epi charts looked like branching family trees, each individual outbreak starting with a single infected individual. From here the person-to-person contacts spread out, sometimes with nobody other than the one case involved, on other occasions ramifying to a scatter of first-generation contacts. There had been no second-generation contacts to date.

Kronstein asked Burke, 'You think this means we are preventing secondary spread through the existing measures of hospital isolation?'

'Looks like it.'

'That's reassuring.'

Burke continued: 'Assuming that spread is through skin contact, the individual epi charts make perfect sense. But now I want you to look at the overall pattern.'

They turned to the final few pages, in particular the summary page at the end.

Evelyn Maurice, hazel-eyed, long-necked, more giraffe than swan, and with prematurely graying mousy hair pulled back behind generous pink ears, exclaimed, 'But this makes no sense at all!'

'No, it doesn't.'

Of the nine epi charts, only two had any known connection between them. Seven appeared to have no possible connection with each other.

'Then the outbreak must be multifocal?' Will asked.

'That's my conclusion.'

Will saw Kronstein frown. Maurice scowled, her wide thin mouth compressed. 'I'm not sure you can conclude anything like that. There may have been contacts you don't know about.'

'That was what I thought at first. But look at pages 20 through 30. Northwest Arizona is mainly desert. These are outbreaks in isolated communities. We've gone through this closely and, believe me, there is no way that there could have been any direct contact between first cases.'

‘Then your index case, Reickhardt, is no longer important. He’s one of many.’

‘As far as we know, he’s still the first. And his wife, MayEllen, is still alive and well.’

‘Then we need to know why she lived when all the others died.’

‘Yes, we do. But she’s uncooperative. She’s gone home. Refused to take part in any further investigation.’

Maurice said, ‘Should she be subpoenaed?’

Burke shook his head: ‘I don’t want to do that unless it’s absolutely necessary. I don’t even know if it’d be legal. She isn’t a criminal.’

Kronstein interjected: ‘With all those deaths, we haven’t got time to wait very long. You’d better look into it, Dr. Burke. Meanwhile, if I can turn to you, Dr. Valero, do we have any idea what might have been the external source of all of these different individual foci?’

On the video monitor Burke was replaced by Valero. ‘None at all.’

Kronstein asked, ‘Any therapeutic angle?’

‘Nothing,’ Valero grimaced. ‘The only useful clinical information I can give you is the variability of progression. In some cases, involving previously fit and well individuals, they can be fine in the morning and dead by nightfall. The shortest so far is eleven hours forty-five minutes. Others, like your tech, lasted for up to three days.’

Kronstein returned to Burke. He said, ‘Dr. Burke – do you have any explanation?’

‘Maybe differences in individual immunity. But it’s possible it might also depend on the mode of contagion. If it’s through skin, for example commonly the fingers, progress can be slow. But if it’s inhaled!’

‘What are you implying? Are you saying you have evidence of aerosol spread?’ Maurice demanded.

Burke pinked. ‘No, I’m not. But there have been curious aspects. In every case, the index cases appear to be rapidly lethal. It might suggest a different mode of contagion.’

‘That hardly amounts to evidence of aerosol spread.’

The director cut the argument short. ‘Thank you both, Dr.s Burke and Valero. Whatever differences of opinion

we might have on some aspects, the situation is more complex than we originally thought.'

Burke was still on line, as were the public health authorities in Thirless, Phoenix, Los Angeles and Dallas. They were looking to the CDC for some suggestions. The director turned to Will. 'How about Special Pathogens? Will, have you gotten any further with identifying the agent?'

Will shook his head. 'No identification. But we do have a few more facts. The agent, whatever it is, is small. It's about ten times the size of the influenza virus. For people not familiar with this, the influenza virus is 80 to 120 nanometers in diameter, and a nanometer is a billionth of a meter. The entity is 800 to 1,000 nanometers.'

'Then we should easily be able to see it on EM?'

'What we have seen to date is fuzzy. There's something very strange about its composition. It appears to be extremely compact - denser than a virus of similar dimensions. Yet it stays suspended in air like foot-and-mouth virus, which is much smaller and lighter. We're working on it. We're also working on how it might be transmitted. We know, for example, that in infected animals it's excreted in all body solutions, urine, faces, saliva, sweat and vomit. Any amount of excretion, however tiny, appears to transmit it with lethal effect.'

'To what extent, lethal?' The speaker, now on video link, was a stranger to Will. He introduced himself as Charles Davies, State Epidemiologist for California.

Will said, 'Our data confirms those of Dr. Valero. So far, it's proven one hundred per cent lethal in every mouse, rat, rabbit and guinea pig that we have tested. Upwards now of a hundred and twenty animals.'

'Lethal by what routes?'

Will glanced over at Maurice as he continued. 'Lethal by any kind of a route you choose to pass it. Whether you brush it onto skin, add it to food or water, inject it through any route from subcutaneously to intravenously.' He hesitated, his eyes confronting Maurice's directly. 'If you blow it into the airways, it's highly contagious.'

Maurice looked disparagingly skeptical.

Davies interjected: 'Then Dr. Burke could be right. It could be airborne in some cases?'

Will nodded. 'That's the big question. If we separate animal cages physically and screen imported air through HEPA filters, there is no spread. When I've connected cage to cage and allowed air to mix by simple diffusion, there is some spread, but sporadic and limited in extent. But when I blew air from cage to cage using a fan, it slate wiped the animals.'

'That's downright hair-raising.' The Californian epidemiologist shook his head. His colleagues around the table had fallen silent.

'Yet,' spoke up Maurice, 'the only person-to-person contagion we have observed is through skin contact?'

Burke's tired face reappeared on the video link. 'Other than close contact, within families, or professional carers, we have nothing so far to indicate significant spread between people. The epigraphs of the individual outbreaks are not the pattern of airborne spread.'

Valero interjected: 'So far - thank God!'

'No more,' countered Maurice, 'is there clear clinical symptomatology to suggest it. No spread through coughing or sneezing!'

Burke pressed: 'But Dr. Grant has just told us that he can infect animals by blowing it into the airways.'

'That's right,' Will added. 'In very close contact, I couldn't rule out contagion between people through inhalation of dried secretions. But human circumstances are very different from animals living in cages. Animals soil their cages with vomit, saliva, urine and feces. Forcibly blowing air about would create an aerosol containing contaminated dust particles. Given normal hygiene, people shouldn't be exposed in the same way.'

Still Burke pressed him: 'How then, without airborne spread, do you explain the multifocal origin?'

'I don't know.' Will shook his head slowly, knowing how important such information was for the Public Health authorities. He felt the weight of Burke's frustrations add to his own. 'The multifocal origins worry me too. They obviously imply some critical unknown factor. Maybe some additional tier of contagion? Until we know more about the lethal agent, we just can't be sure what that could be.'

After another half-hour or so of tense discussion, the meeting closed. The mystery epidemic was now top

priority for the CDC. Maurice made arrangements to travel to the Southwest to work with Davies in California. She was assigned three subordinate EIS officers to help her. Her first priority was to study the LA epi stats to see if she could glean any information additional to what Burke had found. Knowing Maurice, she would do everything in her power to give the Phoenix epidemiologist a scientific slap in the face. Kronstein motioned to Will to stay back for a private word after the others had left.

‘You getting much sleep, Will?’

‘Not a lot.’

‘Me neither.’ The director walked to the window to look down onto Clifton Road. ‘What do you think?’

‘I’m baffled.’

‘Me too! I have Ruth Galbraith on my back. I’m going to have to call her. Problem is, I don’t know what to tell her.’ Galbraith was the Secretary of Health and Human Services.

Will was silent.

Kronstein’s gaze froze on the Stars and Stripes, which hung limply from its flagpole in the humid heat.

‘Scary, huh?’

05: 23/ 15h07

‘Monty’s, Sunset – how may I help you?’

Sitting poolside in the shade, Nora Seiffert took a drag of her Sobranie, talking through the exhalation of smoke: ‘This is Officer Duhane, San Bernardino PD. Can you put me through to the manager?’

A classical piano jingle played while she waited: Beethoven, *Für Elise*.

A salesman’s oily voice: ‘Officer Duhane – how can I help you?’

‘And you are?’

‘Monty Feinstein – manager and owner.’

‘Mr. Feinstein – I’m investigating a hit-and-run on a teenage girl yesterday morning. I’m hoping you can help me.’

‘I’ll do what I can.’

Docking the cigarette under a sandaled foot, she adopted a world weary tone of voice. ‘The perpetrator was driving a red Ferrari. And you came up on the statewide sweep.’

‘Sure, we’ve got a red Ferrari.’

‘A Maranello?’

‘It’s a Maranello – so what! No way was our car involved.’

‘I haven’t given you any details.’

‘You said yesterday.’

‘Early morning. Say 7:00 a.m.’

‘I’ve got one red Maranello and it’s on a rolling wax and shine for the studios. They call. We take it out to them. They call again. We bring it back and stow it for the next time. Like I wouldn’t know if it was involved in a smash.’

‘We have a witness who got part of the plate.’ She read him what they had read off Ray’s license plate.

‘Sure – it would fit our plate all right. But like I say, there’s no way our vehicle was involved. Yesterday, all day, it was in front of my office.’

‘Mr. Feinstein, it’s curious – wouldn’t you say? I mean, a red Ferrari Maranello – would fit the plate. Can’t be many of those around.’

‘You ask me – it’s downright screwy!’

‘So convince me!’

‘This vehicle has no exhaust under her skirts. Can you imagine driving a Ferrari without an exhaust? The goddamned stunt freaks pounded it on a rock. You wouldn’t believe how slow those guys are to pay up.’

‘So you wouldn’t mind if we paid you a call?’

‘You people got time to waste, be my guest.’

Nora replaced the cordless. Jamie Lee, climbing naked out of the water, stood close by, assessing her reaction.

‘You want me to go down there? Check it out?’

‘I haven’t decided yet.’ She shook her head. ‘If that salesman’s telling the truth, the guy suckered us!’

‘That important?’

‘A Ferrari same color and model. False plates that matched. That’s going to a whole lot of trouble.’

Jamie Lee kissed her brow. ‘You’ll figure it out.’

She lit another cigarette.

‘Just wrap your mind around what’s important, Nora. This is the big one. We pull it off and there’s nothin’ but them hot Mexican beaches.’

She turned her face up so they could exchange another kiss: but she was still too distracted to take him seriously. ‘You see, what I got to ask myself is what are his reasons. First the shades and the hat – and now the car. Why the mystery?’

He grinned. ‘Search me.’

‘Oh, Jamie Lee – sweet lover boy!’ She tugged his face down so she could hard-kiss him again.

‘Okay – so I go down, check it out – or what?’

She was thinking: *Ray’s expecting us to go down there and check out the car. Like see if on this one occasional somebody other than the studios hired it. He’s several moves ahead of us. Jamie Lee is going to come right back – nada!*

She clicked the remote to set a song starting: Foreigner – *Cold as Ice*... She hauled the boy closer with her arm curled around one thigh.

‘You’re right. This is the big one. But I can’t help this feeling. You heard that expression – dicing with the devil. I think, maybe, that’s what we’re doing right now, Jamie Lee – we’re dicing with the devil.’

He reached down and moved her hand to somewhere more interesting. ‘So what we do is we play it smart?’

She was getting somewhat interested herself. She pulled him down, so he was lying on the towel alongside her. She brushed her fingers through his hair.

‘What we got to do is figure how to play it a whole lot smarter than just plain smart – we play it smarter than the devil.’

‘How’re we going to do that?’

‘Maybe the devil ain’t as smart as he thinks.’

‘Like he took the cell phone!’

‘Yeah – he took the cell phone like we wanted him to. But I’ve got another idea – one he planted right here in my lap.’

*

MayEllen Reickhardt clutched the pot that contained all that was left of Bill after the compulsory cremation. She looked out of the pick-up window at the reporters that were waiting for her at the gates to her farm. Lucille and Paco had taken her to stay with them for the first few nights she was out of the hospital. Today, Paco was in the driving seat and Hobo, MayEllen’s old and cantankerous Scottish terrier, was barking furiously in the back. ‘You let them have it, Hobo!’ she shrieked over her shoulder. Paco pulled in close as he could get to the barred iron gate and Lucille followed, bumper-to-bumper, in the Mazda.

The reporters must have picked up MayEllen’s address from the radio interview. They must have been camped out here for days. Some of them had gone through the trash, since the black sacs were spilled open, their contents trodden into the dirt. She had no doubt that if they could they’d have gone through the mail. But Bill had welded the mailbox out of plate steel and it carried a lock, opening on the inside. MayEllen hoped that when they had put their hands into her trash, they had found some nugget from Hobo.

Paco wasn't big, like Bill, but he was as mean as a bobcat. He pushed and jostled a way through for MayEllen, so she could get the gate open and then he drove the pickup on through, with Lucille following on his tail. One of the reporters, a woman wearing a two-bit surgical mask over her nose and mouth, squeezed past both vehicles to confront MayEllen through the open window. She stuck a microphone up into MayEllen's face. A camera was rolling over the reporter's shoulder.

'Tell me, Mrs. Reickhardt, how you feel about the fact that your husband's illness has now killed twenty people in Arizona?'

MayEllen looked down at her and considered punching her smug face through the mask. As MayEllen opened the pick-up door to give her some grief, Hobo jumped down and snapped at the reporter's legs. The reporter toppled back, also throwing the cameraman off balance, and they both finished up with their butts in the dirt.

MayEllen shook her head. 'Oh, dear - I hope my rabid dog didn't bite you.'

Helped to her feet by the cameraman, the woman abandoned her fashionable veneer to swear at the jeering throng of fellow reporters.

'I'll sue you.' She screamed at MayEllen, the mask dangling below her chin.

MayEllen unlocked the mailbox and gathered up the bundle of post as Paco ushered the woman and cameraman back out of the driveway and clanged the gate shut.

'That felt wicked,' MayEllen grinned as she unlocked the door to the single-story farmhouse.

Lucille agreed with her, following on after MayEllen with a bag of groceries. 'I enjoyed it after what they made you do at the funeral. I don't think they got the right to say it's got to be a cremation and Bill is all sealed up in a ... a whadyacallit?'

'Hermetically sealed casket.' MayEllen didn't want to think about that as she led them through the door.

Paco held the door open for the two women.

They walked on through to the dining kitchen, where MayEllen put Bill's ashes down on the table. She sat down heavily on one of the oak chairs. 'That radio interview sure

was the pits. I should never have let you persuade me to go up there.'

'You're right. You always are.' Lucille put her bag on the able and threw her arms around MayEllen's shoulders. Then she told Paco to pour a finger of Jack Daniels into each of two glasses and two fingers in one for MayEllen. They all clinked and downed in unison. There was an awkward pause as they put the glasses back on the table in a triangle around the pot with its cargo of ashes. Lucille started taking the groceries out of the bag. 'Now, MayEllen - I got you fresh milk and a whole pound of your favorite hazelnut coffee.'

'Bill was the one who liked hazelnut.'

'Aw, MayEllen!'

'Oh - just kiddin'.'

'You're never gonna change.' Lucille rolled her eyes. 'But I can see how it's upsetting you coming back.'

'I'll be okay. I just want to be by myself a while.'

'You got to promise me, anytime you feel a bit lonely you'll call me. Paco and me, we want you to know that anytime you want to, you just come back and stay with us. In the meantime, let me know what you need from the mall and I'll bring it out with me when I call tomorrow.'

'Thanks.' MayEllen accepted her friend's hug and a kiss.

Lucille asked her, 'What you goin' to do with - well, you know.'

MayEllen looked over at the ashes and her eyes filled with tears.

After they had gone, she poured herself a second generous glass of JD. She carried the ashes into the living room and placed them down centrally on the mantel, under the panoramic photograph over the grate: Milwaukee 88 - the eighty-fifth Harley anniversary. She drew in her lips and her breathing came noisily out of her nostrils as she gazed at them both, so happy astride the bikes that Bill had brought home as a surprise: the crimson-painted Heritage Softalk for her, with its windshield up front and huge black leather panniers on the back. Bill had thought how useful those would be for her desert collections. And he had thought about himself too in the mean machine, FXSTS, bullishly macho in black and chrome. They had posed for the picture in front of an

ant's nest of other HOG members over the shores of Lake Michigan. The good times. No way was it ever going to get any better.

She made herself some coffee, took it black, and began to work her way through the messages and mail. Several calls had come from Dr. Burke, in the public health department in Phoenix, who wanted her to go back there for some more tests. Well, he could go and whistle. She wiped his messages. There were condolence cards from friends, mainly bikers. Two letters marked urgent had come from Phoenix. The dog was following her around the room. 'Well, Hobo,' she said, 'they sure seem to want me bad!' She screwed up the letters, dropped them into the stove and set light to them.

Suddenly she felt consumed by restlessness. Her skin felt so hot she opened all the windows, walking systematically from room to room. She looked out the back window at the cactus field. MayEllen felt faint and her heart was thumping, as if it had swollen to twice its size in her chest.

*

Will Grant stared at the map of the Southwest that was pinned to the wall in his windowless office. His eyes swept over northwest Arizona, where he had just stuck in a series of red pins, to plot the multifocal index cases according to the latest data on the developing epidemic. He asked himself the same questions he had asked himself a great many times since the beginning of the epidemic.

What are we really dealing with here?

He didn't think it was a new virus. But what else could it be, with something the size of a large virus? Something with that degree of compaction, that density! Nothing about the lethal agent made sense.

He stared at those red pins. What he was seeing on the map was clusters, each cluster gathered around a single human focus. What if Burke was right and they were looking at more than one manner of spread?

His gaze moved across to Los Angeles. The spread to the big city was worrying. Cities were mass amplification zones. His gaze held there for several moments before he moved on to Dallas, Texas. Two days ago they had confirmed Texas as the fourth state to be affected. The

package from Thirless had been flown out of Phoenix to Dallas, where it had been handled during the exchange for Atlanta. That handling had infected a single airport employee, a freight handler, who had died and taken with him his wife, his elderly mother, and his three children.

Five more deaths! The ripples were spreading. Will felt a wave of alarm rise in him, like some malign spirit rising out of a pit of darkness.

He knew he was missing something important. He was reminded of Marje, who had been a compulsive crossword solver. Sometimes, when they were relaxing at weekends, Marje would call out some clue, when there was a word she couldn't quite figure out. Sometimes it was easy: he got it straight away, a second mind seeing the answer. But sometimes it appeared to be completely impossible for either of them to solve. It was as if the word had to be unusual, like something from a specialist dictionary. But in the end it turned out to be just another ordinary word. The problem lay in the fact they had been hoodwinked by the clue, which had led them in the wrong direction.

Was that what was wrong? Was his approach, based on emerging viruses, leading him in the wrong direction?

The telephone was ringing.

He picked it up. A woman's voice. 'My name is Kay McCann. I'm speaking from the Ivan Wallin Field Reserve, in the Mojave. Are you Dr. Grant?'

'Yes, I am. How can I help you?'

'I believe you're investigating this epidemic.' There was a note in her voice that suggested uncertainty. 'You any closer to finding the cause?'

'I can't discuss that.'

'Which means you're not. People are getting very itchy about it here in California. I've just lost my colleague to the illness.' She hesitated.

'Uh-huh?'

'I was there when the police found his body, Ake and his wife Agnietta. It was a terrible shock – well, I guess you already know what this thing does to people. But I'm not ringing just to tell you that. There was something going on that seemed really strange to me. In fact there were two things that struck me as odd.'

Will found it hard to keep the impatience out of his voice: 'What seemed odd?'

'I don't want to appear stupid. But could this thing have something to do with plants - or insects?'

He fell silent.

'I know how strange this will sound. But I feel I should go ahead and tell you anyway. My colleague, Ake Johansson, was an ecologist. He got sick while working here on the reserve and he went back home. He died in LA. Back of Ake's house there was a bed of newly planted geraniums. They were dead too. They had gone completely rotten, just like Ake and Agnietta. That struck me as a very peculiar coincidence.'

'I don't see -'

'Bear with me, please? The policewoman, the one who contracted the illness at that same visit, she touched the dead stems. I recall, afterwards, that she complained of some discomfort, pain and itching, in her fingers, where she touched the dead flowers. And then, there were the flies.'

'Flies?'

'The police officer, Brentford, commented on it. He said he's never seen a dead body surrounded by so many dead flies.'

Will stiffened. He wiped the back of his hand across his brow, to give him a moment or two to think. Epidemics attracted cranks like dead flesh attracted blow flies, but his caller didn't sound like a crank.

'What's your field?'

'I'm Professor of Evolutionary Botany at Berkeley. Ake Johansson, the guy who died, co-directed the field reserve with me. He was based in UCLA.' She hesitated and when he said nothing, she continued, 'One thing I do know about is plants, Dr. Grant. And what I saw was bizarre.'

Will thought about his dead wife and her crossword puzzles.

'Evolutionary biology? Tell me, Professor, does that mean that you know something about mitochondria?'

'I should know about mitochondria. My Ph.D. thesis was based on them, as has been a good deal of my subsequent research.'

‘The pathology starts with a catastrophic destruction of mitochondria.’

She was silent a moment or two.

He cut through her silence. ‘Look, maybe you and I should talk?’

‘I honestly don’t think I can help you. I know nothing about medical microbiology. I deal with plants, not people.’

‘I’d still like to talk to you. Could you come here to Atlanta?’

‘I wish I could help you, Dr. Grant. I really do. It sounds like you could do with all the help you can get. But things are a little hectic here right now.’

‘Then perhaps I should go see you?’

05: 24/ 07h12

Kay's hair blew wildly as she stood on the asphalt with her arms about Sean and braced herself against the downdraft of the rotors. Mike had just set down on the parking lot. He had arrived unexpectedly. Sean, who had been sleeping in a bag on the floor of her bedroom when she had quietly slipped out for her morning coffee, at 7:00 a.m., must have woken with the sound of the chopper approaching. He had guessed who it was. She found him out here, bowled over by Mike's cavalry entrance. Now she raged at the figure in the bubble cockpit over the white paintwork with the McCann Bionano Inc. logo - the inverted M on M, looking like two trapezoids in parallel.

Mike knew just what he was doing. Sean, barefoot, wearing T-shirt and jeans, could hardly contain himself. As soon as she let him go, he ran across the parking lot and leaped into the cockpit.

'What the hell do you think you're doing?'

'Good to see you too, Kay!' Father and son sat there smugly grinning at her, Mike's arm around Sean's shoulder.

'You're not taking him.'

Mike laughed, causing a flush to invade Kay's face.

There had been a time when she had been entranced by Mike's showman extravagances. The day he proposed to her, they were enjoying a meal out in San Francisco, on the veranda of an Italian restaurant down by Fisherman's Wharf. A place by the waterside, overhung with ornamental willows and maples. Only in retrospect had she realized how much trouble he had taken to make the day special. Even the music - he had made arrangements for them to play the song, *Windmills of Your Mind*. While the music was playing, the waiter brought a gift to the table, under a silver cover. When he raised the lid, the veranda became a fairytale landscape, filled with giant

butterflies. Kay didn't know the species then, but she discovered later they were *Dryas Julia Fabricius*. An absolutely gorgeous subtropical variant. The males had a wingspan of three and a half inches, golden-orange with black borders, like the sun coming through a tropical storm. Mike's betrothal gift to her was in their wings. He had done something to the wing buds of the larvae, so the wings were emblazoned with purple hearts. Even now she had no idea how he had quite managed to do that. The gift had been impossible to refuse.

She couldn't let him see the effect his arrival was having on her so she stalked back towards the doors. Father and son hopped down and followed her.

'Kay - can't we talk about it in a common-sense way?'

'You're not taking him.'

'Have you heard the latest figures out of LA?'

Kay tried to storm off through the door but he held her arm and turned her to face him. 'Hey, now, will you listen to me? It's serious. They're understating the figures, Kay. It's really spreading - getting worse by the minute.'

She shook her head. People were watching them argue. She saw Andy Yang grinning.

'How long before it arrives here? For God's sake, look around you. Where are all these people running from?'

Kay said, 'No!'

'I'm sorry to have arrived unannounced. Okay, it was stupid. Truth is, Kay, we've both been pretty good at behaving stupidly. But we love Sean.'

'Let go of my arm!'

She pushed past him but she knew it was true. Too many people had been arriving here. They had been pulling in all day yesterday. At least a dozen grad students were packed into a single dormitory where normally there would be a maximum of four. They had filled the bunk beds and were sleeping on the floor. One or two of her scientific colleagues had brought out their wives, on the pretext that they were lab assistants. The atmosphere was increasingly tense.

'It could be here already and you wouldn't know it.' Mike was tailing her, speaking softly now, because Sean was getting fractious at their arguing. 'I'm not asking that he stay with me. Reno isn't much safer than LA. I've

talked to your Mom and Dad and they've agreed to have him.'

Kay's parents, Tom and Marilyn Monaghan, had a farm in Wyoming. It was a very isolated place. She knew there was good sense in what he was saying. Still, she felt so humiliated she pulled herself away from him and headed for reception.

A tall man was standing by Michelle's desk, watching her run her hands through her disordered hair.

'Kay McCann?'

Oh, shit! Not now – not at this moment!

'You've got to be Dr. Grant.'

He offered his hand. 'I've just arrived.'

What was the guy doing, arriving this early! He must have flown over in the middle of the night and driven here from LA while still dark. 'I did try to warn you over the telephone. It's approaching pandemonium here.'

'Compared to where I'm coming from, it's positively restful.'

He was more youthful looking than she would have imagined, athletically built, black-haired. And those blue eyes didn't hide their look of appraisal. Struggling to adjust mentally from maternal concern to scientific duties, she murmured, 'I guess you'd better come back to my office.'

He said, on route, 'I'm grateful to you for giving me your time.'

She noticed that he was carrying a briefcase. She hardly dared to wonder what it might contain. 'You got a name for it yet, this plague that is frightening the wits out of everybody around here?'

'No name, not yet.'

She turned her head and there was a brief flash of eye contact. 'Believe me your plague has a name.'

'It has?'

They entered her office, cluttered with papers and files.

'The Zombie Plague.'

'The Zombie Plague?' He shook his head, accepting her offer to sit down.

'I was listening to a radio interview with this woman, MayEllen something...'

'MayEllen Reickhardt.'

'She claimed her husband was the first to be affected.'

'That's right.' He lifted his briefcase onto his knees and said, 'I hope you won't mind if we kick off straight away?'

'If you don't mind, I'd like to know about this Reickhardt woman. She was in close contact with her husband and she survived?'

'Yes, she did.'

'So it can't be one hundred per cent contagious as well as lethal.'

'We don't know the degree of contagiousness, or fatality, not yet. If she was infected, she had no symptoms. I'd like to talk about the death of your colleague.'

'Ake Johansson.'

'You noticed some unusual aspects. You talked about plants - dead flies.'

She was unable to suppress a shiver. 'You think they might be significant?'

'Right now, I'm prepared to consider anything that could be even remotely relevant.' Suddenly his cell phone began to bleep. He picked it out of his pocket and clicked off the connection.

'But first you want my help with mitochondria?'

'That's right.'

He took some 10" x 8" electron microscope photomicrographs from the briefcase on his knees. There hadn't been room to open it on the desk surface, which was littered with journals and papers. He passed the pictures to her, over the jumble: 'As you can see, these show the appearance in animals after we have passaged the agent and studied the development at half-hourly intervals. They move through all the stages, from normality to death.'

The pictures had been taken at various magnifications, from 10,000 through to 100,000. He waited in silence as she looked through them.

She said, 'I see what you mean about the mitochondria.'

'What would you have done that we haven't done?'

'Well, for a start, the preparations and stains are not quite as we would set them up here. We're looking with different eyes, I guess.'

'In what way different?'

‘It’s hard to encapsulate in a few words. But you’re a virologist, right?’

‘A virological pathologist.’

‘You think disease. I think life.’

‘You have an EM suite here?’

‘A little dated, but we have one, yes.’

‘I’ve brought some tissue specimens. Before you get alarmed, they’ve been Gammacelled - irradiated so they aren’t infectious. You could mount them here, if you’re willing. Prepare them for EM examination your way. Show me how you’d go about looking at this differently.’

‘I’m not sure —.’

‘Professor McCann – out there, people are dying. I’d appreciate anything you might be able to do to help.’

She looked at him again. ‘I can’t promise anything.’

‘A different perspective?’

Kay gazed down at the small pile of EM photographs. Abruptly, she picked up the desk phone and made a call.

‘Hi, Andy. The guy I mentioned - from CDC - is with me right now. He’s brought a batch of EM pictures, along with some fresh specimens. Can I bring him over?’ She paused to listen. ‘How soon?’ Another pause. ‘Okay!’ She got to her feet.

‘Andy is already in the EM suite. He’s somebody you’ll want to meet.’

05: 24/ 09h19

When Harvard-based emeritus professor, Miroslav Janovic, was lonely, he spent time in what Americans called the yard. He had been lonely a good deal recently, with his daughter one year imbedded in her paleobotany degree at the Museum of National History in New York and his son lost to marijuana on the hippie trail in South-East Asia. The fact that there was just the two of them echoing around in a ten-room barn of a house had not helped the relationship between Janovic and his postmenopausal wife, Annie. She had found her own escape as a member of a group of art-appreciating women who took every excuse to go visit Europe.

All of this made Janovic angry. His anger made him more difficult to live with, which in turn made Annie even happier to stay away.

A Czechoslovakian by birth and a mathematician by inclination, Janovic had won the Nobel Prize for his solutions to the evolution of complexity in biological systems. Despite the intelligence that revealed to him exactly what was wrong with his relationship with his wife, he was so trapped in his obsessive-compulsive personality that he couldn't do a damn thing about it - other than to spend time in his yard-cum-garden, weeding, hoeing and turning over the wood-bark chippings between the flowering shrubs.

Janovic was scarecrow skinny, with large hands and strong bony fingers: he looked like he'd been designed by his farmer ancestry for the fork and the hoe. He was enjoying what he was doing when the tall stranger appeared through the gate, carrying a bunch of chrysanthemums in a presentation bouquet.

The gardening had brought on a sweat and Janovic paused in his hoeing to wipe his eyeglasses. He took his handkerchief from his pocket, breathed onto each lens in

turn, then wiped them in a circular motion as he watched the man approach. A young man, as Janovic now assumed, although the stranger's face was hidden by the dark visor of a motorcycle helmet. Huge shoulders: muscled like an ox.

'Is this the Janovic residence?'

The stranger had long tawny hair that came down under the back of the helmet in a ponytail and he spoke with a kind of cowboy accent. He wore blue jeans and a sleeveless denim shirt. There was something curiously pale about his hands, half hidden among the bouquet. Janovic put his eyeglasses back on so he could take a closer look at the stranger's hands. He was wearing latex surgical gloves. Janovic had lived through the struggle for independence from communism in his native Czechoslovakia. He had encountered predators before.

Quick-thinking as to how he must appear, with his gnarled muddy hands, his old gardening corduroys, he said calmly: 'Mr. Janovic isn't in right now. But you can leave the flowers with me and I'll see he gets them.'

The stranger studied Janovic's face. His eyes roamed over the garden, to the big three story house at the top. The perusal was clinical. There was a moment during which the professor sensed how the world had grown still and quiet. A low-pitched drone invading his hearing.

'The flowers come with a message from his wife. I got to hand them to Janovic in person.'

Annie had never sent Janovic flowers in her life. He loathed chrysanthemums. Janovic regretted he had dropped the hoe in order to wipe his eyeglasses. 'Like I told you, he isn't at home.'

The stranger fired a short barrel Fabarm through the flowers, directed into Janovic's face. His body fell back into a baby palmetto, a shower of petals falling into the sticky embrace of blood and gore. The backlash had splattered the stranger's visor. Jamie Lee Weiss hinged it up so he could lean forward and inspect the mess. Then he turned his head one way and then the other to confirm that all was quiet. Nobody around. The floral garden was as still as a grave.

*

Will Grant shook the hand of Andy Yang, a Korean senior tech who was built like a Sumo wrestler. Kay McCann had

abandoned him at the door. She had urgent things to attend to and would catch up with him later. Will had to go through the tedious business of explaining it all over again.

Yang took it all calmly. 'So these are tissue sections of lab animals showing sick mitochondria, huh?'

A rhetorical question. Yang was already making a spread of the photomicrographs. Without lifting his eyes from the pictures, he indicated that Will take a stool. The walls were decorated with photographs of scantily clad young women in between a proliferation of black and white microscopic images of shapes that resembled hollow pea-pods. Mitochondria!

Yang grinned: 'Impressive, huh?'

'In more ways than one.'

'I'm talking about the Prof - Kay!'

'So am I.' Will assumed he wasn't the only man to find her attractive. 'She seems a little tetchy.'

Yang cackled: 'It isn't you, Dr. Grant!'

'No?'

'It's Sean - her kid. She and Mike have been fighting over Sean ever since the breakup, and that's what - must be three years ago. And now he flies in here, looking to take Sean out to Wyoming.'

'Wyoming?'

'Kay's folks have a farm up in the mountains.'

'Right?'

Yang chuckled again, a heavy vibration that rattled his bulk. 'But hey, I can see what you mean, about the mitochondria. These are some sick looking bozos!'

'I'm hoping you can cut some fresh specimens. Maybe help decide what's going wrong with them.'

'We'll see.'

Will handed over the specimens.

'I'm not going to turn black overnight?'

'You'll be safe.'

'I believe you.' Yang had a jokey way of talking but there was tension in his body language as he moved the specimens onto the bench in front of the microtome slicer. 'I've already noticed something interesting about your pictures.'

'Yeah?'

‘The mitochondria on just about every view are moribund or dead already. Only on the very earliest views – say fifteen, thirty minutes after you have injected your agent – do we see any distinguishable changes. So that’s where I’m going to concentrate.’

‘Makes sense.’

Yang shook out the first specimen onto his preparations board. ‘I better get on with slicing and dicing. Why not cut yourself a little free time.’

‘I’ll stick around. Give you a hand.’

Yang grinned, his broad open mouth filled with strong wide teeth, like a steel trap. ‘Thanks - but no thanks.’ He reached his arm over, rapped his knuckles against the door of a fridge that stood conveniently close to his workstation. ‘You look like a guy who could maybe use a beer.’

*

Dr. Jez Burke leaned forward until his visor was touching the windshield of the truck to peer out at Sheriff Horlon, who was arguing with an elderly man on the other side of his makeshift roadblock of reinforced concrete blocks laid across oil drums. They were about a third of the way up Black Mountain, one of Arizona’s premier tourist attractions. A dirt road led from the other side of the road block to a trailer park on a sandy plateau. Below them, in the distance, he could make out the small town of Carefree, hemmed in by buttes and dunes. The elderly man was accompanied by a younger version of himself, wearing denims and brandishing a rifle. Horlon had hand-painted “SHERIFF” across the chest of his field suit. His deputy, Menz, dangled a pump-action shotgun at his side. The body language was scary: no need for further confrontation here but if you want it you’re sure gonna get it. In the storm-laden sky overhead, reporters in choppers buzzed the scene, like vultures.

Burke was thinking: if this gets to shooting, I’m going to be too tired to run.

In the wing mirror he could see the column of four military ambulances that trailed behind.

‘We’ve got to do something.’

The voice belonged to Jamie Sanchez, the veterinarian, who sat next to Burke in the front of the truck. Miller, the virologist, sat suited and sweating in the

back, surrounded by Sanchez's traps and equipment, which included an autopsy table for animals that could be extended out there in the dirt.

'Shit!'

Burke alighted from the vehicle. From now on every movement would be made awkward by the suit. He wondered if the old guy with the rifle was one of those people who had been taking pot shots at the reporters in their choppers. There had been reports of that happening. So far, thank God, nobody had been killed. Soon there would be no need to shoot at them. The coming weather would clear the skies. He walked forward, in the direction that the thunderheads were building up.

'Don't be an asshole!' Menz was losing patience with the men at the roadblock. Now that Burke was approaching, the young man with the rifle turned it on him. Burke saw the same yawning terror in the young man's eyes. He thought: *I'm in a plague zone and there's a guy with a rifle in my face!*

The old man waved a newspaper in front of his face. The front page carried a four inch banner headline:

CAGING A VICIOUS PLAGUE

His eyes were wild, the muscles in his neck standing out like straps. He shouted: 'We're the ones caged in here!'

Burke wasn't surprised they were panicking. He had read other headlines in the last day or two:

DEADLY PLAGUE MYSTIFIES SCIENTISTS ZOMBIE PLAGUE CREEPS ACROSS THE SOUTHWEST ARIZONA DEATH TOLL TOPS 100

He said, 'Sheriff – can I talk to them on my own for a minute?'

Horlon and Menz took a few paces backwards and then watched.

Burke approached the two men with his glove-covered hands in the air. He spoke as softly as he could through the microphone incorporated into his suit. 'Listen

to me, please. I'm Dr. Burke, from the public health offices in Phoenix. I'm coming around there to talk to you.'

He stopped walking, close enough to touch them: 'I want you both to know that I fully understand why you're angry.'

'What we are is goddamn terrified. This is a thing that eats whole families.'

It was no exaggeration. Burke had officiated at an extraordinary press conference in Phoenix two days earlier, during which he had informed about fifty newspaper, radio and television journalists that the situation was grave. They had just set up a raft of forty employees taking telephone calls in a converted school gymnasium in Phoenix. Those lines were hot, 24/7. Doctor's offices had lines around the block: people who thought they had the Zombie Plague. A small minority of them did. You didn't know who the infected people were until you examined them and by then it was too late. They'd had dozens of contacts, including family, people on buses, people in the shopping malls, the bars and 7-Elevens, nurses and the other people ahead of them in the long winding queues. Secondary call-in centers had been set up in Flagstaff and Thirless and they were equally busy. He had heard from colleagues that much the same was happening in LA and, to a lesser degree as yet, in Vegas and the rural areas around Reno.

Burke reached out and put his hand on the old man's shoulder. The muscles there were shivering and jerking. Burke could tell that the skin was hot even through his gloves. This guy already had a high fever.

'What's your name, sir?'

'Jason Bardon. This here is my grandson, Moss.'

Burke said hello to the younger man, then turned back to talk to his grandfather. 'How many people live here?'

'Upwards of sixty, normal times.'

'How many dead?'

'Five, I reckon. Two of them just kids. Three more pretty far gone. All the rest took off two days ago.'

'Show me!'

'I can't go into them places. They got contagion.'

Burke stared into the old man's frightened eyes. He just plain lied: 'It's okay. You're safe now. The last thing

we want is some kind of accident. Ask Moss here to hand the rifle over to the Sheriff. We're going to take care of you – get you out of here.'

'You ain't takin' us nowhere. This is our home. We ain't leavin'.'

Maybe the old man was right to just stay. Burke had already concluded that neither he nor his grandson were salvageable. Behind his back, so only Horlon could see it, Burke made a fist with his right hand, then upended it, with his thumb pointing down.

*

Two and a half hours later, with Miller left behind to finish the epidemiology, Horlon drove Burke and Sanchez on up a winding track that led higher into the mountains. They had discovered one more case. A Vietnam vet named Vincent Ellroy lived several miles up the track, wheelchair bound and alone. One of the dead women in the trailer park had been his wife, long divorced. Until a week ago she had still cared for her ex-husband, fetching him a couple of five gallon barrels of water, food and booze once a week. Nobody had been up there to see him for a week. The old guy at the roadblock had been checking he was all right via a cell phone. For the last two days he hadn't been answering any calls.

The three men sat in silence as the four-wheel drive whined in low gear. They were high enough to look out over the desert for a good twenty miles. Far below them, and extending out into the distance, they could make out four or five separate thunderstorms, with lightning bolts arcing down out of the black underbellies of clouds. You felt it in the air: soon it was going to come down out of those thunderheads in a deluge. They were all itching to get the business over and done.

Burke had questioned the old man in some detail about Ellroy. Now he rewound those answers in his mind:

'He had no visitors during that week?'

'He never had visitors, not even in a year.'

'He came into contact with nobody at all?'

'Nobody.'

'What did he do all day?'

'Sat on the porch lookin' out at the desert.'

As soon as they left the shelter of the trailer park behind, the wind caught the truck. Every time they

emerged from behind a butte, it tossed them around, like a raft in a maelstrom. The rain fell, hard as hail. There were signs they could barely decipher along the way pinned to stakes or painted onto the desert rocks:

**STRICTLY PRIVATE
BEWARE OF DOGS – OFF THE LEASH
KEEP OUT
YEAH – THAT MEANS YOU**

From the looks of things, Ellroy was a regular hermit. Very likely armed and not altogether sane. Sheriff Horlon had brought along the pump action. After about five miles of bone-jarring concussion, they came out into a clearing, dotted with Joshua trees and piñon pines. They stopped in front of a dilapidated trailer, extended to a porch with a covering of corrugated iron out back, all thrown together among a scattering of abandoned cars.

Sanchez muttered: ‘What’s with the wrecks? I thought this guy is some kind of a cripple.’

Horlon gave a snort. Maybe, like Burke, he objected to a war veteran being called some kind of a cripple: ‘My guess is they predate him coming here.’

The wrecks were a mixed collection up to half a century old. The archeological relics of people abandoning their trash before moving on.

Sanchez shook his head, his eyes widening: ‘No point laying out rodent traps!’

‘Jesus!’ Burke was staring with distaste at about half a dozen dogs. Starveling mongrels. And corpses of others, half-devoured by the pack.

Sanchez whined: ‘Man – we’re going to be popular with the animal patrol people when we call them in here.’

‘If we bother to call them!’ Horlon pulled up. Nobody was in any hurry to get out of the vehicle.

‘Tell me, Dr. Burke – why are we bothering?’

‘The guy’s wife hasn’t been out here for a week.’

‘Yeah – so?’

‘The incubation period is shorter than that. She’s only been dead a day. That means she wasn’t infected a week ago when she last visited him.’

‘I still don’t get it.’

‘Let’s just wait and see – huh?’

Burke was the first to climb out of the truck. The Sheriff came after him, toting the shotgun. One of the trailers had a makeshift wooden step. It had to be the living room. Horlon kicked in the door using the sole of his gum boot. The room was laid out for a man at wheelchair level. Garbage everywhere. Unwashed dishes on the table. More piled up in the wash basin. Family photographs decorated a dresser. Burke inspected what he took to be Ellroy in his wheelchair, his wife’s arm around his shoulder. Happier times. The photographs looked decades old. They heard music coming from out back.

Spooky.

They found the body on the veranda, a round-faced balding man in his early sixties, nestled in his wheel chair, his skin turned black. The yard was littered with chicken bones and hundreds of empty Coors cans. An amputated car radio, jump-leaded to a battery, stood on the bare wood floor tuned to one of the cowboy stations. Ellroy had been dead for maybe a couple of days. A cigarette roll-up device lay upside-down on the boards beside his right foot.

Horlon whispered into his suit-mike: ‘Jesus!’

Burke spent several minutes inspecting the body. There was no evidence of dog or rodent bites. Insect vectors were unlikely at this altitude. He straightened up. Stared out into the worsening storm. He shouted, ‘Fuck Evelyn Maurice!’

The other two clapped their hands to their helmets at the thunder of his voice through the speakers.

Horlon asked him: ‘What the hell is bugging you?’

‘This poor guy! What we’re looking at here has to be a fast-track. He couldn’t have picked it up from the people down the track. No direct contact for a week. That means two groups. Two primaries.’

‘That tell you something?’

Jeze Burke gritted his teeth, staring out through his visor into the inblowing squalls of rain. ‘It means that I was right and she was wrong. It’s airborne. It’s coming from out there. Out of the desert.’

05: 24/ 10h00

Kay McCann was not religiously inclined. But she felt blessed, in something close to the religious sense of the word, in her vocation of studying life, its diversity and beauty, and most importantly of all, in the mysteries of its evolution. She resented any interruption of her work. This plague, while terrifying, was also having a devastating effect on the normal routines and protocols at the field reserve. Ake was dead. Mike had arrived with the express purpose of taking Sean away from her. And now this pathologist from the CDC was an additional distraction, even if he seemed rather pleasant and dedicated.

She had made the mistake of arriving back in the EM room several minutes ahead of him, giving Andy the opportunity of pestering her further about his girlfriend. When Will Grant arrived, she was in a fidgety stew of resentment, worry and restlessness. He joined them on one of the wooden stools around the towering machine and they waited in silence as Yang warmed up the field.

When ready, Kay took a half step from her stool to douse the main electric light, plunging the room into darkness illuminated only by the actinic green of the screen.

‘Okay, let’s flick on through those early grids.’

Yang had prepared twenty-five grids from tissue specimens taken fifteen, thirty, forty-five, sixty, and seventy-five minutes after intravenous injection of the lethal agent into three mammalian species. Now he fed the 15-minute grid into the mouth-like port in the tower stack.

There was a sudden clutch of anticipation as the first views swung into view. The magnification was low power, mere tens of thousands.

Kay explained: ‘We’re not so used to looking at animal and especially human mitochondria. Fortunately

mitochondria don't look a whole lot different between plants and animals.'

'Okay,' Yang added, 'I'm going to concentrate on the membranes.'

The viewer zoomed in as he flicked through increasing magnifications. Fifty thousand. A hundred thousand. A copper grid smaller than a shirt button expanded until the nucleus would have filled a house. He worked his way through further magnifications. A tiny portion of a nucleus became the size of a room. A single cell expanded until it became the size of a village.

Will asked him, 'You see any change?'

'Nah! I would say this is normal.'

'That would fit with the fact the animals didn't show symptoms until about half an hour after injection.'

'Okay, so let's go to the half hour specimens.'

They went through that same slow process, ratcheting up the magnification in and around another eerie landscape.

Will asked Yang, 'You see anything now?'

'Nothing definite.'

Will voiced his frustration: 'At this stage, these animals are starting to get sick.'

Yang shook his head. 'What about you – spot anything unusual, Kay?'

Kay moved closer, so the screen light reflected off her face. She saw her own reflection in the screen, her expression intense, her hair a confection of tarnished copper.

'Let's increase magnification.'

'You got it.'

Will pressed Yang: 'So, what do you think?'

'I see something, maybe. Could still be normal.'

Kay narrowed her eyes to peer more closely at the screen: 'I'm not so sure. Look at the outer surface of the membrane.'

Yang tried focusing in and out on the membrane. Will asked Kay: 'You can't see anything else happening?'

Kay turned to find him studying her face. 'Nothing I could be sure about. What about you, Andy?'

'I think there's something happening. You see that?' He moved the mouse on his pad, which synchronized with

a pointer on the screen. 'There's a slight fuzziness. A loss of detail.'

'Maybe that's important,' she sighed. 'Maybe it's important to realize that that's all there is to see. I mean, nothing else looks even remotely unusual. And these mitochondria, the changes might be fine but the disruption of function could be major.'

Yang took photographs, flicked on a dim light, walked over to his developing slot and fed them in. He loaded the next grid: one of the three-quarter-hour tissue samples, flicked quickly through the magnifications.

'Now,' he muttered, 'you can't miss it.'

Will shook his head. 'What's different?'

Yang went over to extract the now developed films of the previous set so he could place the films for comparison against the images on the screen. 'Look here at the outer membrane.'

'I see it too,' Kay murmured. 'A kind of frothy appearance?'

'I'd call that lacy - and a significant change.'

Will asked the technician. 'Do you have any idea what could be causing the loss of definition?'

Kay answered for him: 'I think Andy and I may be thinking the same thing. But let's put it to one side for the moment and come back to it.'

Yang moved onto the one-hour grid. 'Okay,' he murmured. 'Now you should be able to see it for yourself.'

Will murmured, 'I do see something now.'

Kay agreed. 'I'm convinced, Andy. That membrane is positively frothy, bubbling. And there's a ground glass opacity spreading into the surrounding cytoplasm.'

'But what does it mean?' Will added.

'Okay,' she answered, 'we'll come to that. But first let's move on a little further. I want to see how it progresses through a time-frame series.'

They moved on the 75 minutes specimen.

'Jesus!'

The mitochondria were going out of shape. They were swelling up and bursting, like miniature explosions. Will turned to Kay. 'You've looked at a lot of mitochondria. Have you ever seen any progression like this?'

'Only in autolysed cells - or living cells in which the mitochondria were killed off by an antibiotic.'

Yang asked her, 'You can kill mitochondria with antibiotics?'

'Sure. With certain antibiotics, and in relatively large doses. It's another of the ways they still behave like bacteria.'

Yang nodded, 'So if an antibiotic could do it?'

'A chemical similar to an antibiotic could do it.'

Will disagreed. 'Toxins wouldn't explain contagious spread, person-to-person.'

Yang asked him, 'Could it be some kind of self-replicator that produces a toxin.'

Kay leaned close to follow it around the mitochondrial membrane with a pointer, 'You think this might be particulate?'

Will stared at what she was indicating: 'Now that would be interesting.'

'You must have the particle size for your agent.'

'Between 800 and 1,000 nanometers.'

'What do you think, Andy? Could the haze be particles that size?'

'Yeah – could be.'

Will stared at the screen, his tiredness forgotten. 'What's really going on in there?'

Kay hesitated before answering. She didn't want to make a fool of herself. She said, 'Dr. Grant – if I could hazard a guess?'

'Will – please, Kay. And go ahead.'

'Okay – Will. I believe I've seen something like it before.'

'You have?'

'Have you considered genetic engineering?'

'I've never heard of any engineered entity that remotely resembled what we're dealing with.'

'So it's new.'

'Now hold on a minute, Kay. Are you implying something deliberate?'

'If it's engineered, it's got to be deliberate.'

'I find it hard to believe –.'

'It doesn't have to mean that the plague is deliberate. Could be the thing was manufactured for some entirely different reason.'

'It's a horrifying thought.'

The Doomsday Genie

'There's another possibility, a good deal more horrifying. Have you considered an engineered bioweapon?'

05: 24/ 12h10

Will laid his second cold beer against his sweating brow. He was sitting back in the passenger seat of the Buick out in the parking lot. The rental car had been standing out in the open sun but he had no time to wait for the air-conditioning to cool it down. He took a sip of the beer and then called Aaron Kronstein.

Kronstein wasn't in his office. His PA, Clara, said he was attending some important meeting and should be available in an hour. 'Never mind the meeting,' Will replied. 'Get hold of him and have him call me back. It's urgent.'

'I'll do my best.'

With his cell phone on his lap, Will watched some of the biologists relaxing on their noonday break. They sat around in shorts and T-shirts in the paved area, next to two large Apache ovens. He wondered how often they got around to using those. He envied them the possibility that they might even cook their meals in them and eat them out of doors, drinking beer in the cool of evening.

Kronstein was taking his time. Will checked his cell phone, made sure he hadn't inadvertently switched it off.

When it did ring, it wasn't Kronstein. It was Martin Kennedy, Evelyn Maurice's deputy in epidemiology.

'Hello, Dr. Grant. I was told you had something urgent?'

With Maurice away and Kronstein busy, Kennedy must be holding the fort for emergency calls. But Will didn't want to talk to anybody other than Kronstein. He changed tack. 'Did we check out the neighboring states?'

'Yes we did.'

'What did we get back?'

'Nothing unusual so far. We're still making calls.'

He sighed. Kronstein had asked epidemiology to make those calls as a proactive measure. He didn't think

they should wait for the other states to make up their mind before coming through to them. He knew that state public health directors tended to wait until they were reasonably certain before calling up the CDC. Maurice had found more than a hundred cases so far in LA alone, and people were getting increasingly jumpy. It didn't surprise him that people were heading out of the city.

'I need to speak to Kronstein personally.'

Sitting back in the car, taking another swig of the cold beer, Will saw a tall man come out of the building with his arm around a boy's shoulder. He recognized Mike McCann from his championing of nano-engineering. The impression he had, McCann took it to extremes. He had a reputation for being a maverick. One of Will's colleagues, a geneticist, went so far as to predict he would go down the tube, scientifically and financially, because of his over-ambitious ideas. The golden-haired boy had to be Kay's son.

His cell phone rang: Kennedy again. 'You told Clara it was urgent. I've just called Evelyn. She wants to know what's so urgent.'

'She can wait all she likes. Like I told you, it's something I need to discuss with Kronstein personally.'

'He's had to go to Washington. I could try to get in touch with him, if it's so urgent.'

'Thanks, Kennedy. Do what you can. Have him call me.'

Kennedy added, 'I've just taken an interesting call from Burke. He says he's now certain the fast-tracks are aerosol spread – it's coming in off the desert.'

'On what evidence?'

'You'll have to ask him.'

Will's pulse quickened. *The possibility of airborne spread – Jesus!*

Will cut the line.

Father and son were climbing into a white Robinson R22 Beta II chopper with red accent stripes. Kay McCann hadn't appeared to wave goodbye. It was so humid in the driver's seat that sweat ran into Will's eyes. He had another swig of the beer, as the rotors began to whump the air. He was back in the darkened room, the green light back-illuminating the microscopist's features. He heard

Kay McCann's voice: *'Have you considered an engineered bioweapon?'*

*

Kay had found Mike and Sean in the cramped confines of her bedroom, sitting on the bed and playing computer games. She'd forgotten how childish Mike could be, how he'd play games with Sean for hours on end. He left Sean engrossed with the computer game to come out into the corridor to talk to her.

'Kay,' he murmured, 'I didn't want to shout it to everybody on the parking lot. But I really do know somebody in Public Health in LA. It's getting really frantic. They don't know how to control it.'

'You're not taking Sean. Go back up to Reno, Mike.'

'You think I'm exaggerating? I know you've got this guy here from CDC. Why's he here? Don't tell me you haven't been asking yourself that question. They don't have a clue what's happening.' He took hold of both her shoulders and tried to hug her but she held him off. 'I want to take you both out of here.'

'No!'

He was whispering now, that old husky whisper that would once have melted her. 'I'm very worried about Sean. But I'm worried about you too.'

'Oh, go try it on one of your bimbos!' She pulled herself out of his grasp.

He raised both his hands. 'All I ask is that you consider the situation. You're a logical person. So ask yourself this question. What happens when the first one of you here gets it? Or one of them arrives with somebody who is already sick? You haven't even got a nurse here, for chrissake! What are you going to do then? Are you going to take them out into the desert and dig a big hole?'

'Don't be ridiculous!'

She saw real emotion in his eyes. She recalled those EM pictures of the mitochondria. Maybe Mike was right? She had already asked herself that question. What if somebody here did get the infection? They had nothing more than basic first aid, stuff to manage allergies and snake bites.

'How do I know you're telling me the truth?'

‘I’ve got his number - the guy I mentioned at Public Health in LA. I’ll call him up right now, let you talk to him.’

‘Don’t bother!’

Michelle had come barging in. ‘I had to find you, Kay. Two of the grad students have gone missing.’

Kay looked at Michelle. ‘Which two?’

‘The two I told you about earlier. The ones who wanted you to help them with their project. They went out last night to do some black light counts and they didn’t turn up this morning.’

‘Where did they go?’

‘Sector 5-32.’

A spasm of fright registered at the core of her. It grew into a nauseating sensation, heavy and sickening, like a cramp in the pit of her stomach. Mike seized her shoulders again as soon as Michelle had left them. ‘What did I tell you. It’s already happening. Let me take Sean out, immediately.’

She nodded, close to tears. She went into the bedroom and hugged Sean. She kissed him roughly on the cheek. He was so startled he tried to pull away from her. But she just wasn’t able to help herself. She hugged him and then hurried out of the room.

*

Kay heard the chopper take off and she closed her eyes, held them closed for several seconds, before opening them to gaze down at the jumble that covered the surface of her office desk. Her misery was interrupted by a rapping on the office door. Will Grant came in. ‘Something wrong?’

She blew her nose, told him about the missing postgrad students.

‘They do that - they go out there, stay all night in the desert?’

‘A lot of insects are nocturnal. One way of confirming insect densities is through black light counters, which only work at night.’

‘What time would they have been expected back?’

‘Soon after dawn.’

‘That’s seven hours!’

‘I know.’

‘You look worried.’

‘They were working in Sector 5-32. That’s where Ake was working last week. I think he must have asked them to check out whatever it was he found out there.’

‘Before he got ill?’

She nodded. ‘I’m kicking myself. They asked for my advice but I’ve been so goddamned busy since I arrived yesterday.’

Will sat down heavily in a chair. ‘I’ve just spoken to Burke – the state epidemiologist for Arizona. He thinks the fast-track cases are airborne infections. He thinks that the infection is coming in off the desert.’

‘How sure is he?’

‘The evidence is still circumstantial.’ Will put his cell phone onto the desk. ‘This sector, 5-32 - do you have any idea what it was that Johansson found out there?’

‘I don’t know. But he thought it was important enough to try to call me when he got back here on Thursday.’

‘There’s got to be some way we can find out. He must have kept notebooks - a computer log?’

‘There is one thing, something I should have thought about earlier.’ She was already on her feet and heading towards Ake’s office. When they entered, they had to shove boxes of equipment out of the way to get to his desk. So many people were arriving they were using any unused space for storage.

Now Kay explained, ‘Ake was clever with computer programming.’ She booted up the computer. As she waited for the desktop to load, she thought about Ake: how funny he could be, cigar-smoking, rangy, bony, uncaring about his appearance or fashion in clothes - his shirts holed here and there where burning tobacco had fallen through it, and his fair hair already half turned gray. ‘What I’m thinking is he would occasionally leave messages for me on his desktop. For example, if we missed the crossover, like when one of us was on vacation. I didn’t consider it because this time he couldn’t have realized that he wouldn’t be coming back after what he thought was the flu.’

One of the shortcuts caught her eye. The folder looked out of place, like Ake had intended it to be no more than temporary: it simply read ‘File’. When she clicked on it, there was a request for a password, the request itself a simple code Ake sometimes used for her alone: *O-K*. She

inserted the code, which was her own initials, followed by her date of birth, the year, the month, and the date, in that order. It was Ake's little joke.

The file opened.

We have a problem in Sector 5-32. There have been amazing fluctuations in insect populations. Some monumental crashes. But some others - she scanned a series of Latin titles for genera and species, had the impression they were all carnivores - running riot. You will have already noticed that the crisis is mainly affecting plant feeders. I have been observing some irregularities for several days. But then I saw the densitometer readings - and this morning, those Landsats! I don't know what the hell to make of the anomaly. The scale of devastation is alarming. I hesitate to think it but I believe we may be witnessing an extinction paradigm.

'My God!' Kay sat back in shock.

Will came round the desk to read the message for himself. 'What could have shown up on the Landsats that got him so alarmed?'

'I just don't know.'

She knew that Ake worked very closely with the NASA-based Landsat terrestrial surveillance programs.

She found the Landset-7 gateway icon and clicked on it. The screen filled with subsidiary icons, all relating to monitoring data from the Mojave Desert. Kay struggled to comprehend the program. Ecology data at this level was more Ake's baby. Nevertheless, she clicked away through field after field, ranging through the various data downloads. The program had a large number of specialized functions but what interested her this morning was a specific program known as DARS: Disturbance Assessment by Remote Sensing and Spatial Analysis. The purpose was to pick up change, disturbance to the ecology, using a number of computational markers. She juggled the keys until she was looking at a patchwork quilt of the desert ecology, with densities of plant growth,

temperature gradients and surface humidities showing up as different colors and tones.

‘Can you make out anything unusual?’

‘Too much data!’ She shook her head. ‘And there’s the problem that insect densities won’t show up on the Landsat maps.’

‘Of course – Will, that’s the answer!’

‘What do you mean?’

‘Plant density will show on the Landsat. But you can’t tell anything about insects from these charts. For that Ake would have to rely on his resonance scanners.’ She paused. ‘And with what he was seeing —.’

‘He’d have gone out into the desert to check?’

‘Yes, he would.’

‘Surely,’ he urged her, ‘we can call somebody. Landsat is a NASA program. Why don’t we just call them up and ask them what’s going on?’

Kay picked up the telephone and connected through to reception. She asked Michelle to do it and then put them through to her.

Will was looking very solemn. He asked her abruptly, ‘Do you keep field protection here?’

‘What kind of field protection?’

‘Masks, gloves, clothing, eye protection?’

‘Against what?’

‘Against a lethal agent the size of a virus.’

‘I... I don’t know for sure. The need has never arisen. But I guess we have something left over from the Hantavirus epidemic.’

‘Well, maybe we better go check things out,’ he murmured.

Kay exclaimed, ‘Those poor students!’

05: 24/ 14h10

Will found the field protection gear in a cardboard box, covered in dust. He unpacked it, inspecting each item carefully and laying out a suit for each of them that included a lightweight PVC coverall, a separate hood and vinyl boots. He insisted that Kay watch and listen as he checked the connections to the HEPA filters. Then he tested the pumps that would supply clean air under positive pressure for breathing and cooling. He charged up four batteries, two of which would function as spares. It couldn't be hurried and took more than two hours.

Only when he was satisfied did he ask Kay: 'If you feel ready?'

'I'm ready.'

'Okay. When we get to within a few hundred yards of the suspect area, I want you to let me know. We're going to have to put on this gear in the open. You sure you don't want to stay with the vehicle?'

'I'm coming with you.'

Will gathered the gear and they left the lab complex, almost running. Knowing the territory, Kay took the wheel of the yellow Wrangler, and Will sat alongside her, speaking tersely to someone at the CDC on his cell phone. 'The protection is ten years old. I have to hope it isn't compromised.' His eyes avoided hers, knowing she was thinking about her son while following his words. 'Get Aaron Kronstein to call me back, no matter where he is, or what he's doing.'

They had traveled no more than a few miles along the rutted track when his cell phone beeped. He clicked the answer button: 'Grant!' Kay assumed he was through at last to his boss, Kronstein. She heard the voice say something about three more states.

'Which states?'

Kay did her best to eavesdrop as the vehicle lurched over the uneven track. Her heart began to beat very fast. *Not Wyoming, please God!*

‘I don’t know if you heard, Aaron, but Burke thinks the fast-tracks might be aerosol spread.’

She couldn’t catch the answer.

He talked with Kronstein for several more minutes, explaining the EM conference and the genetic engineering possibility. When he switched off, Will fell silent. Kay drove for another thirty minutes through mile after mile of plains and arroyos before finally approaching the butte that over looked the flat basin of 5-32.

‘We’re getting quite close.’

She took a detour to her right that ascended over rocky ground, heading upland to what Ake had liked to call his observation platform. As she stopped the vehicle, Will’s cell phone beeped again. In the quiet, interrupted only by the wind and the cooling ticking of the engine, she overheard the voice she assumed to be Kronstein’s say, ‘It’s very worrying. But I can’t say I understand where it’s leading us.’

Will spoke tersely. ‘Me neither. I’ve got to go. But before I do so, Aaron, I need your help. Two grad students were expected back from a nighttime field trip to the zone in question. They haven’t come back. We’re about to check out the area to see what’s happening.’

Kay heard the tinny distant voice, ‘Is that wise?’

‘We’ll be wearing field protection. Anyway, before we set out, I’m going to put you on to Professor McCann, who needs some advice from the Landsat people at NASA. Tell them it’s important. They were working with Johansson on some ecology data and they may have picked up some unexpected changes in this area of the field reserve just before he got the disease. Johansson was the first reported case in LA. He died after he visited the affected part of the reserve.’ He handed Kay the cell phone.

Kay could not suppress her anxiety. ‘I overheard, Dr. Kronstein. Three more states. Please tell me one of them isn’t Wyoming.’

‘Not Wyoming, Professor. Utah, Colorado, New Mexico.’

The flush of relief must have been visible on her face. ‘You seem less than surprised to hear that it has spread?’

'I wish I wasn't.'

'If it was so damned inevitable, why didn't we anticipate it? Why didn't we damn well prevent it?'

'Because we couldn't. Do you imagine we could have stopped all movement out of Thirless - out of LA? Even if we had grounded all the flights, it wouldn't have stopped people getting out. You can't put 20 million people into quarantine.'

'I'm sorry. It's just that I'm worried about my son.'

He said, 'We're all worried, Professor. There was something Will wanted me to do for you. Some data from the NASA Landsat people?'

She explained, then switched off the cell phone, handed it back to Will. She said, 'There's an observation point a hundred yards that way. We're going to have to walk from here.'

Wordlessly, they climbed out of either side of the vehicle. Kay blushed at the fact she had to undress to underwear even though he was gentlemanly enough to turn away. They donned the coveralls, leaving the gloves and the helmets, with their respirator backpacks until last. Kay was taping the seals over her gloves when the cell phone, lying on the passenger seat, rang again. Will picked it up, spoke a few words into it, then handed it back to Kay. 'NASA,' he said.

She took the cell phone. 'This is McCann.'

A female voice: 'You worked with Johansson, right?'

'I was his partner in administering the field reserve.'

'Well, there's something very odd showing up on the thematic mapper - and it shows up even better on the multispectral digital videos.'

'Is this Sector 5-32?'

She paused, as if examining her data: 'That's right. What we're seeing is foliage density changes.'

'What sort of density changes?'

'Circles.'

'Circles? What do you mean?'

'These appear to be naturally caused circles in desert vegetation. Not easy to see at first but you can spot them once you suspect they are there.'

'What does it mean?'

'I don't know. But I understand you're speaking from the reserve right now. I'd be intrigued to hear what you find when you go take a look.'

They completed suiting up. Then, stepping away from the vehicle, Will said, 'There are going to be lots of sharps out there. Just about every plant is carrying needles that could penetrate these suits. So we're not going to take any risks by hurrying.'

Kay was careful where she placed her feet, trudging the hundred yards of incline that brought them to the top of the butte.

The space suit felt decidedly alien to Kay as she stood and gazed over the familiar desert landscape. They were buffeted by hot gusts of wind that rattled sand against their visors as they looked down into a landscape that epitomized the wonder of evolutionary struggle. From this elevation it was easy to see how every cactus, shrub, bush and tree was circumscribed by its own little patch of scorched dirt, its battleground for survival.

Will tapped her shoulder and pointed. She followed his direction to the oblong of orange that marked the position of the grad student's Jeep. It hadn't been obvious because it was half obscured by a copse of cholla cactus. Kay scanned the area around the vehicle. For a minute or so she failed to see what she was looking for, because she was thinking too small, but then she saw it and her heart faltered. The Jeep was within a zone of discolored vegetation - a circle.

'Oh, Jesus!' she murmured.

It was gigantic, at least a mile in diameter. This must have been what Ake had seen. All of a sudden, Kay felt overcome by panic. She couldn't get enough air into her lungs. Will, who held her by the shoulders and peered through the visor at her, appeared to understand what she was feeling.

'Take it easy.' He spoke through the radio intercom, so his voice seemed to come from another room. 'Open your mouth and breathe through it rather than your nose. Breathe in deep and breathe out slow.'

She breathed as he told her and slowly the panic subsided.

Examining it more carefully, she saw that what had first appeared to be a confluent circle was actually a series

of concentric circles, rather like a target, a dark thin ring at the periphery, paling to gray in the inner circle and the bulls eye itself was bleached bone white. She glimpsed what might be smaller circles extending out from the periphery of the original.

'Ake must have seen this too!'

He nodded, pointed to something else. Even from this distance you could make out that there was at least one figure lying in the middle of a clump of cacti, a short distance from the orange vehicle.

*

They retraced their steps down from the plateau and Kay drove them, still wearing full safety gear, to the boundary of Sector 5-32. It was a few hundred yards' walk in the stifling heat before they arrived at the orange four-by-four. Cholla cacti with needles that still glowed a brilliant golden, but whose arms were a tarry black, surrounded them. Inside the vehicle they found a cool bag containing some water and sandwiches. In the glove compartment was a cell phone the postgrads had also left behind.

Kay and Will walked deeper into the circle, heading for the bodies.

'I presume you recognize them?' Will asked her.

Kay nodded.

The tiny body of Sara Goldsmith - Kay recalled her as a sensitive, shy girl - sat back against the sharp needles. Her friend, the enormous Sameeha Prakesh, lay among the chollas with her head cradled on Goldsmith's lap. There were drag marks leading back out of the desert to where they found them. They had made it to within fifty yards of the Jeep.

Will followed their tracks for a distance, observing that they were irregular and wandering. He brought back a single collection bottle, containing dead insects.

'My guess,' he said, 'is that the big girl was the sicker of the two. The other one wouldn't abandon her and so they couldn't make it back to the vehicle.'

Kay didn't want to hear the details. 'I can't believe that they were alive and well only yesterday.'

'We better take a good look around.'

On the surrounding slopes they saw the skeletal remains of creosote bushes, milkweed, mesquites, burro bushes. Lower down it changed to Joshua trees, barrel

cacti, whipple and Mohave yuccas. Everything was dead. Through the helmet, Kay heard no sound. She saw no movement, no ground squirrels, no quail, not even a cactus wren. There were no banded geckos clicking a warning.

She tapped Will's arm. 'See if you can spot any insects.'

'What am I looking for?'

'Flies, bees, butterflies - and arachnids too, scorpions and spiders.'

In ten minutes of further searching, they didn't find one. Kay's sharp eyes picked out a dead rattlesnake, a young male, no more than three feet in length, an angular shadow on the ground, like a fractured bough, its mouth stiffly agape with fangs extended. She had no idea how long ago it had died but its flesh was already half desiccated.

Will put a gloved hand on her shoulder. 'Kay - listen to me carefully. We have to regard our suits as heavily contaminated. Your vehicle too, once we get back to it wearing these suits. You don't have the facilities to decontaminate us back at the complex. I'm going to have to think of some alternative arrangements. In the meantime, I want you to follow my instructions to the letter. Do you understand?'

'Okay.'

Exhausted and sweating after the long trek back to their vehicle, and still wearing full biosafety gear, Will switched on the cell phone and, clumsily, through the gloves, he sent a text message to Aaron Kronstein.

LETHAL AGENT CONFIRMED. NEED HELP.

The reply, also in text, came back within minutes.

CHRIST! HELP BEING ORGANIZED. STAY AWAY FROM FIELD RESERVE. LEAVE CELL PHONE ON FOR POSITIONING.

They seemed to wait for an eternity before the cell phone beeped again. The message read:

TEST HOOD RADIO.

Will shrugged at her perplexed expression. He pointed upwards, into the sky. 'My guess is they're trying to pick up the suit radios and relay them through some army spy drone!'

Kay looked up there but she could see nothing.

‘What – they can pick us up from here?’

‘They’ve probably been watching and listening to every move we made.’

There was a sudden crackle in the hood receivers. Will tried talking: ‘Aaron – you picking this up?’

‘I hear you but you’re muffled and very faint.’

‘I’m having to shout, over the noise of the pump.’

‘Okay. Hold on a while. They’re working on amplifying your voice minus the background. Keep talking to me. You hearing this, Professor McCann?’

‘Yes, I am.’

‘That’s better. I can hear you clearer now. Will, you still hearing me?’

‘Loud and clear.’

‘I’ve just had a call from Lilley, the Director of the FBI. The White House has received a spooky e-mail.’

‘How spooky?’

‘Detailed and challenging. Purportedly from the source of what we’re dealing with.’ Kronstein paused, and Kay assumed somebody was working on making the conversation even clearer. ‘I told Lilley about your idea about an engineered bioweapon. It would fit with the message.’

‘The idea wasn’t mine, it was Kay McCann’s. Anyway, the White House must be flooded with challenging e-mails.’

‘Yeah, but this one hit the button. Whoever sent it, they appear to have accurate knowledge of what’s going on.’

‘What exactly did it say?’

‘I’m waiting to hear if the FBI is activating a full CONPLAN response.’

‘What’s CONPLAN?’ Kay said.

Will explained that in January 2001, following the 9-11 attacks, the government had set up an interagency Concept of Operations Plan that would be activated in the event of a terrorist attack involving a weapon of mass destruction.

‘A weapon of mass destruction?’ Her mind was reeling.

Kronstein’s voice returned, to ask them to remain on hold. This time they could hear him speaking into what Kay presumed was a different telephone. Within half a

minute he was back on the line. ‘CONPLAN response is confirmed. Will - its orange on a potential Omega-3 situation.’

Will’s head fell back against the headrest.

‘What does that mean?’ Kay pressed him.

‘There are four Omegas, Kay. Each is a perceived WMD threat. Omega #1 is nuclear, Omegas #2 and #4 are radiation and chemical. Omega #3 is biological.’