

Prologue

From this height, it looks so perfect that it could almost be a simulation. The slant of the sunlight at this time of the morning, the shimmer of the coastline, the dipping of the horizon, the feel of the abstracted wind separated by panes of perspex – it feels surreal. Bucking on wind above the world, she will never tire of flying.

The carbon is not visible, yet her eyes seek it out. The ships below spew it silently into the particles that break and swirl. The heat building, the water surging, the clouds forming. She thinks back to the meeting, not long concluded. Could she make this work? It feels like a cover-up. It feels like a fake. But this is the path she chose. This is what she wanted. This is the price of success.

She imagines packages and parcels flying around the world like so much data, systems tagging, tracing, and logging, information provided via files, endpoints, and applications, ping ping ping, and the endless firing of datapoints like neurons, like stars. Far below, a large waterway slices through the lower flatlands from the northwest down through Kent towards Sandport Bay and the English Channel, separating the island from the mainland as it has for thousands of years. Large, long bridges can be clearly picked out against the sparkling water.

Despite her noise-cancelling headphones, she strains to hear the audio against the sounds of the engines. The words clatter away in her ears. She smiles to herself as she hears her employer described.

“Gerbach, the famous American logistics and distribution conglomerate, established itself in the once sleepy port town of Sandport in 1964. Utilising local labour for its warehouses, it attracted professionals from London and around the world to lead its global

administration centre. Plentiful energy from the nearby power station, ready access to the sea. Room for expansion into almost limitless mud flats. It offered a glimpse of the future for this quiet part of Kent.”

The message was clear. Learn from this place. Make it personal. Do your homework. She checks the name of the historian on this podcast. Bob Sawtrees. His steady, whispery drawl continues.

“Later, commercially available wind power brought an extra dimension...”

Her eyes rest on the massive offshore wind arrays north of the coastline.

“Demand soon outstripped capacity. New, imaginative ways of generating electricity were needed, not all with very green credentials.”

Perhaps Bob Sawtrees is an agitator? She smiles to herself. The voice continues in its faint Kentish burr.

“But where did Gerbach come from? Why here? And what happens next for this old site and its employees?”

She inhales sharply and then sips her gin and tonic. Hears the shift of the ice against the glass. It had been another tough meeting. A reminder that the work was only getting started. Gentle encouragement to redouble her efforts wouldn't stay gentle for very long. The boss had made that clear.

The music takes on a sinister, swirling sound.

“Sandport was once one of the five or ‘Cinque’ Ports, but the flood of 1287 caused catastrophic silting in the south and the north of the region. Sandport grew; its waterway widened by Mother Nature. It became the primary port for the region.”

She looks down at the curve of the coastline on this bright morning. So close to London but so far in many ways.

“This enormous storm did the same to the Dutch coastline, aligning Vlissingen (“Flushing” to the English) and Sandport. Trading partners, the two grew in tandem. Their populations mixed.”

She's seen the coat of arms. The heraldic figures. The history. The Dutch-built, timber-framed houses of the town.

“During the world wars of the 20th Century, Sandport was a target for foreign eyes. Hitler’s doodlebugs and V2s wrought great damage. These attacks tried to bury the port town and its ancient past in the alluvial Kentish mud.”

The music clashes and swells again, mimicking the sound of bombs falling into the soft landscape.

“Modern Sandport celebrates its Dutch ancestry and makes no bones about its fractious past. This southerly, ancient port is now connected to the Isle of Thanet by a major bridge completed in 1964. Gerbach still works this important waterway with a small fleet. Perhaps the Wantsum will rise once again?”

Despite everything. Still an anomaly. Still an also-ran. Mainly staffed by parochial idiots, misfits and whoever they can find to accept their pitiful wages. These people didn't understand anything. Too relaxed, too disengaged. None of them understood what they were trying to do here. None of them. She would have to work hard and fast.

Cinque Port. Sandport. The Dutch connection. She looks at the notes she made earlier. Before she'd stepped on that plane, she knew the next move. Now it was just a case of making it happen. Just a case of making the people dance.

PART ONE

1

The Wake-up Call

She feels the cold, alone in the silence. Pooled in darkness, the dressing gown wrapped tightly, headphones on. The sleep in her muscles given way to tension. Confusion is the single note in her head. The cursor blinks.

The laptop screen is too bright. Beth checks the time. 3:27 a.m. Already an hour on this call, no one talking, but everyone still staring at the shared screen. She looks back at her terminal window, the cursor awaiting her command. She closes her eyes for a second. The room spins slowly.

A ping from a DM startles her, loud in her ears. She worriedly looks at the volume control before realising only she can hear it, the house still asleep upstairs. Pune has been tracking the problem for ninety minutes. As third-line support, she has only been involved for the last fifty. The phone call rattled the ancient Blackberry across the bedside table to wake her. She squeezed out of bed and slid quietly over the landing past her kids' bedrooms to make her way downstairs.

Tinnitus was OK once you got used to tuning it out. Standing too close to the PA at a gig. A night of damage and inattention. And suddenly there you go, not even into your mid-thirties with damaged ears. Spiking in the quiet mornings like this when tired, when ill. The price of enjoyment.

Ping.

KSanjay: do you want to try it again

She reloads the front-end in her browser. There's still a login window popping up when there shouldn't be one.

BethW: no, still happening

A thoughtful pause on the other end of the chat. No typing.

She goes back to her scattered thoughts. Sometimes on these nights, you were in control. You were the one making the changes. Sometimes you were the one assisting, ensuring that the other person had another pair of eyes to help them. It was always a team effort. And teams can only move as fast as the slowest player. Sometimes it's faster to go it alone, but that is a risk. Sometimes you need to take a risk to get back into bed for the remainder of the night.

These are the skills that no one teaches you. They are forgotten as soon as they are remembered, or you are born with some innate ability to handle the unsociable hours.

She opens the code editor and checks yesterday's change. Two sign-offs are required, but the system allows you to override. Override. Merge. Done.

A shiver of thought flits across her brain. A slight panic rises. It would have been safe, right? The test coverage is good? A doubt. She pushes the thought down, and the brain takes over, reminding her that there is nothing more that can be done. Wait until tomorrow. They are already most of the way through a fix.

The laptop hums away steadily, pumping more hot air out onto the dirty plates. Drying them. Caking them. Why couldn't the kids or Dominic ever clean up after themselves? Beth stretches and stands to edge through to the kitchen area. Sliding in dining chairs that catch on the floor. The carpet under her feet is warm and soft but could do with cleaning. The cat is asleep now, having rotated and picked its way into a warm, comfortable spot on the sofa.

It's fine. There are checks in place.

She flips on the kettle and looks at herself in the glass of the kitchen cabinet. Black hair in a bob, tucked behind her ears. A nose stud. A flannelette nightie under her fluffy dressing gown. Rock and roll.



In the weak sunshine of a fresh late-winter morning, coastal air rolls over a wasteland where huge Victorian warehouses once stood. They still have a few old wharves along the Wantsum, but up here, closer to the old power station, most have been replaced with large purpose-built aluminium sheds filled with endless racks of servers and their ancient 1970s operations centre. She's not the first. At least twenty cars are here already.

All of the support people are answering customer calls. There is red on the usually placid green and blue monitoring screens. Above, overlooking the whole open-plan space, is a global map showing the impacted areas of this latest outage. It looks like air freight and shipping terminals are suffering, plus there would be knock-on effects in the supply chains. That's bad news for all of their customers, but it's the new ones who will be most displeased.

Beth keeps her head down and makes her way straight to the incident room. Ian is wearing that red jumper that's a size too small and almost the same colour as his large, neatly-bearded face. He is a small man with a loud voice, a barrel chest, a hearty laugh and a paunch to match. But there is no laughing this morning.

Ian slams the table. "Why is this happening now, of all days?"

Silence. They let him continue.

"Why didn't the automated backout work?"

Michaela leaves a beat and sighs discreetly. Her faded New York accent punctuating the short silence.

"You knew this was a risk, Ian, adding those new clients Abinghouse and Voldermeet, but y'all went ahead anyway." Michaela looks pointedly at Alison, their product manager, who stares back impassively and continues to listen.

Michaela is slim, dark skinned, wearing jeans and a jacket with black, deeply-curled hair. She's a couple of months older than Beth, doesn't take any shit from anyone, let alone Ian and, a long time ago, was her best friend at school.

She goes on: "We agreed a few weeks ago that stability was our number one priority. We can't do both – we can't guarantee stability when we're aggressively expanding our customer base."

Ian looks dumbly at Michaela. "What do you mean, 'We went ahead'? This was Product's decision and Support said it would be fine." He's not buying it.

Michaela is Beth's team lead, their Product Owner. She's good at dealing with this management bullshit. Beth wonders why she's even been brought along to this meeting. She keeps her mouth shut and surreptitiously raises her eyebrows to Grant, her teammate in DevOps, and he twinkles the hint of a smile back.

At this point, Alison speaks up. British, clipped tones, smart business suit, mid-forties. She's the newest member of the management team. She's smart and she's quick, which is annoying. She's the one who made them bend the rules.

“Yes, we pushed for it. Support and Dev said it would be fine.”

It's clear to Beth now. Alison called this meeting to get Ian to chew them out. Michaela sighs again, a little more obviously and trots out a weary response.

“Ian, you know that we agreed that stability was important so we said don't push any more customers onto either system before getting us to sign off.”

Alison pushes back. “You're aware that ChainLink is the one we need to be able to onboard customers onto effortlessly, right? It's the first step on our product ladder.”

“Except for the new people,” corrects Michaela, waving her hand to indicate the new clients.

Alison nods, accepting this point. “Except for our new clients who just use our infrastructure. Yes. But our core business is ERP. Without that backbone, we don't get to sell warehouse management, so TrolleyTrack, plus we don't get to do supply chain and order management with ChainLink.”

Beth rolls her eyes. Honestly, they could all do without the lecture on their own systems. These systems are all she has known for most of the last few years.

Michaela looks to interrupt but Alison holds up her hand and raises her voice.

“But, it's our infrastructure stuff, the new products, that are the way forward. In future if there's contention over where you should use resource,” at this she looks distastefully at Beth and Grant, “then know that you should focus on a good experience.”

Grant looks a little shocked. Beth is determined not to rise to this bait. Ian can take it instead.

Ian shakes his head. He might be simply forgetful or Machiavellian; it's sometimes hard to tell. He also doesn't like Alison taking charge like this, but he doesn't immediately challenge the new woman. Instead, he rounds on the dev team as if he feels this is what he should do.

"So listen to what Alison says, please. Your job in tech is to make it stick, right? You guys," he points at Beth, Grant and Michaela in turn, the two women who both wince slightly inside, "you guys need to make this happen."

This feels like a betrayal. What's changed since Alison came on board? Not much, really, apart from more noise and accusations like this. Self-obsessed as ever, thinks Beth. Why doesn't he understand that none of them wants to be up in the middle of the night nursing these 24/7 systems through their death throes? Nonetheless, here they all are, after another sleepless night.

The worst thing, Beth thinks as she emerges from the meeting room's stale air and goes to her desk, is that this was all avoidable. If they could all just stop for a minute and understand where they needed to spend their time as a team, as a group, they could probably fix all of this in a month or two. Maybe.

What Alison said made sense from the business perspective, but she's still naive to the way they work here. Everything is done in a rush. New code is pushed to production and things carry on in their own slipshod, halting fashion. All these managers. All pushing their agenda while living in the fear of failure heaped on them from above. And they'd all heard the rumours. Someone was coming. Something was going to happen finally. Perhaps this would be the change for the better they all needed. Hope is the killer.

She settles down at her desk and docks her laptop. Double monitors. She pulls up last night's telemetry and looks at the graphs of failure, graphs of recovery. They tweak processes here and there, they bring new resources online in the dev environments to work out what happened. They will nurse these systems through another day to another night. Another weekend wasted at work.

And then she sees it. The mistake that she'd dreaded. The mistake that Grant had missed, too. She had screwed up. This could have rendered half of their systems inoperable if the end-of-week local refreshes hadn't caught it last night. She shudders. This whole

outage could have been catastrophic. She breathes lightly as she tests a fix. Quietly, she creates a PR and sends it to Grant for the first approval, and then sighs in relief.

Peter would be livid about what happened. They always had the best intentions, but the execution was always lacking. Beth felt weary to her bones. There was no Peter at work yesterday.

And Peter had been out with Dominic last night.

2

Chrissie's Arrival

The plane is late, the weather is foul as it touches down at Heathrow with a bump and a squeal of tyres. Chrissie relaxes her hands as the speed sloughs off. She stares out of the window. From first class, the country looks even more dishevelled than the last time she was here. But sometimes these two countries, divided by a common language as her dad always says, seem like different sides of the same universe.

She's got a banging headache, probably from the mixture of first-class lounge champagne and Vicodin, but at least she got a form of rest. She looks at the watch on her slim wrist: 7:27 a.m. local time. And yet there is still a full day ahead of her.

No one helps her lift her heavy carry-on out of the overhead locker and it's a stretch for her short frame. For a moment, she wishes Mitchell was here to help. The excitement of travel wore off what feels like days ago, replaced with apprehension for the task ahead. Straightening her travel suit, she makes her way up the airbridge. Business face engaged.

She takes the phone out of flight mode as she waits for immigration. A cavalcade of emails, texts, WhatsApps and Teams and Slack messages flood in. Teams and Slack take precedence. Teams for escalations, Slack for all the operational stuff. She sees a fight between some of the architects and senior devs about the firewall changes again. Eight years into this cloud 'lift and shift', there is no sign that it will stop anytime soon. Having moved most of their stuff from their own servers "on-prem" to one cloud provider, they are now in the middle of another migration. Everything moves so

slowly and they still have projects everywhere, and always this is talk of more. Things move faster in people's heads than they can ever happen in real life. They continue to pay ever-increasing amounts of money and hope that things progress. Networks at the heart of all of this confusion, and the bills mount with every passing month.

Her head is already in the detail as she waits for her suitcase. The work relieves the feeling of tiredness as a flood of adrenalin courses through her. Annoyance at inefficiency seems to be the staple mood of her working day.

She's already on the phone back to head office in downtown Cicero, Illinois as she walks through customs:

"Hey Marcie, it's me. Sorry to wake you. Yes, fine. Can you do me a favour and help me find the notes for the migration meetings we had a couple of months ago? Yes, the ones about the firewalls, I believe it was? Yep. Thanks. Speak soon."

There is always noise coming from somewhere, voices clamouring for attention, projects that spring up from nowhere. Executives with their pet programmes, their babies that they nurse through from inception to something they hope will catch the eye of someone higher up in a good way. A risk, a gamble. Anything to make the days, weeks and months more bearable. Chrissie had been on both sides – punting the ideas and running the projects. She knows how it works, and that's why she is where she is. Always an executive with an excitable architect in tow, pushing something that will only make their lives more complicated.

The driver is in his late fifties, wearing a Sikh's dastar and a gentle smile. She mouths hello and gives him the thumbs up. Next, she's on the phone with Mitch to check on the situation with the roof. He sounds in control. She relaxes slightly. The driver wheels her large suitcase, heavy carry-on, and laptop bag towards the waiting Mercedes.

She's on another call by the time the car pulls away.

"Arthur. Sorry to disturb you so late but I guessed you'd be awake. How is it going? Yeah, good, thanks, just touched down. Yeah, it will be a long day today. Listen..."

And she's into a lengthy technical discussion, which she ignores most of, but needs to be alert for. She knows she's in a tricky position

and, as the soon-to-be-announced VP Operations Europe, none of this work is going to go away just like that.

As Philip, the Senior Vice President, her boss, tells her, this could be the making of her, but right now, she feels like she's just doing what she does best: moving fast and making people justify their wages.



The rain hasn't stopped all ride. The elevator is out of action, so she struggles up four flights of stairs to the penthouse. The driver helps her with the bags. She already made sure they stopped for cash so she could tip him. She gets a receipt, of course, and thanks him. And then suddenly, she's alone.

The flat feels cold and empty and a million miles from anywhere. It smells a little damp, despite being on the top of this renovated warehouse. It's nicely outfitted, if a little dated, but the lights just seem a bit too dark or ineffective, and the windows don't seem to let enough light in. It feels cramped. A full kitchen with a living room, two bedrooms, both with en-suites in case she has guests, not likely, she thinks. There's that lift to get her up without taking the stairs. Around here, this is as good as it gets.

Chrissie looks out over the flat, grey countryside swathed in rain. The old abandoned sawmill on the far bank of the channel, with the neat houses next to it. It looks like the kind of place that Scooby Doo and Shaggy would find something amiss in. She looks at the long, slender willow trees on the banks of the brown, ooze-coloured river at the quay.

The location is perfect. A ten-minute drive, or a half-hour cycle or even a long run to the office a few miles away across that brown-grey-looking, slow-flowing water under the bridge.

You can't miss the bridge; it dominates everything. While she's been here before, it's never felt comfortable. It all feels so different, so apart. Like parts of her home have been brought together with parts of the old world, Europe, England, everything. The proportions of distant cooling towers look alien in proportion.

Chrissie lugs her suitcase onto the bed, takes out the pictures of Mitch and Morgan for her bedside table, and then sits down heavily.

She feels sleep tugging at her eyes. But no, it's lunchtime. Time to get out. The weather can go to hell. She locates her waterproofs at the bottom of her case, touches up her makeup, tucks her hair under a beanie and heads out into the pulsing sheets of rain that the wind whips in from the nearby coast.

Sandport's core used to be an ancient town south of the Wantsum, but now the broad and smooth-flowing channel splits it in two. A wide, urgent waterway powering the wheels of the local economy. Chrissie sees the barges tied up at the docks on the other side of the channel. The huge bridge towering over it connects the old town to the new. The distant marina marked by yacht masts. The power station and warehouses. The close-formed groups of wind turbines huddled on the shore and in the channel out to the east. It's an industrial landscape perched on the edge of the world. It reminds her of a smaller version of Rotterdam with all those pipes and wharves and ships, but something is wilder and much less impressive about it.

This is more edge-of-the-world than the endless rolling sprawl of Europort. She can't forget that chaotic place with its endless industry and oil terminals with fire spewing into the night. A lifetime ago, when Morgan was six, they took the ferry from Rotterdam to explore the North of England, driving around aimlessly. The imposing North. A different country compared to this flatland.

And then Sandport. The town itself is asleep, even at lunchtime on a Friday. The rain worries the residents and workers inside pubs and cafes for a sleepy lunch. She has a few hours to kill before the next meeting, so she starts to explore.

Her grandfather told her about a saying about British Pub culture: "The Walls Have Ears."

Chrissie finds a cafe in the middle of the town. The service is polite enough without being warm. She waits through one cup of decidedly average coffee and then another. Her phone still full of messages. Time seems to pass so slowly. Mitchell calls again. She confirms she's OK. The roof is solved. Morgan did well at the tournament.

His voice is a powerful presence, as though in the room with her. While it feels good to connect, to hear a friendly voice, she also wishes in a way she hadn't. She rings off quickly, annoyed.

She would wait alone. She would be patient.



It's a sweet-looking little place, tucked away in a part of the old town where the quayside falls away to some residential properties by the water. A seafood place, she guesses that she'll need to get used to that. The restaurant is not far from her apartment. As she walks along the banks of the channel, she senses the current pulling at the feet of the giant bridge.

Charles seems a little softer, a little wider and with a little less hair than the last time she saw him. His smooth-shaven face is smiling broadly as ever and he waits respectfully by the front desk as she walks into the restaurant. No showboating from him. Not yet anyway.

Charles is their Enterprise Architect; their European one. She gets on well with all of the architects, but always particularly Charles, and she feels relieved to see him.

“Chrissie, so good to see you again!” he sounds genuine as he kisses her on both cheeks.

He smells clean and fresh, in a new shirt and tie. The blazer, though, and the trousers she has seen before. Charles' signature look is usually somewhere between a high-school teacher and a university professor. Nominally smart but always a pleasure.

“Hi Charles, lovely to see you again.” She is happy to see a familiar face. “Thanks so much for meeting me tonight. I hope I didn’t crash your plans too much with your family?”

“Not at all, we couldn’t have you being by yourself on your first night now, could we? Jessica says hello, by the way. Honestly, she’s happy to have me out of the house for a bit.” His trademark wit is already in action.

The service is good. It’s not super attentive, but passable for somewhere that is, let’s face it, she thinks, on the edge of nowhere. The waiters and waitresses are young and easily distracted, but competent enough. They get drinks and appetisers quickly.

“It’s great to have you here, Chrissie. It really is. I hope your arrival here is good news for our legacy systems?”

Chrissie doesn’t rise to the bait of the open question but feels disappointed that it’s come around to business so quickly. She smiles at the older man. “It’s great to be back, Charles. What do you mean exactly?”

“Well, you know we are chronically underinvesting in our core systems...”

“Do I? I’m not sure I follow, Charles?”

“Well, I did bring it to the board’s attention at the last quarterly architecture review, particularly your boss.”

He raises his eyebrows knowingly. She wasn’t at that meeting. He’s just testing to see how much she knows.

“So what did Philip have to say about this important subject?”

A pause. Her directness slightly takes the older man aback, but the smile returns as quickly as it disappears. She thinks she detects a cover-up incoming.

He laughs. “I discussed the modernisation. There was a general agreement. Timelines and budgets are, apparently, for you to consider.”

Chrissie looks at him steadily for a second before speaking. As if reading his mind, she gives him a briefing. He wants business, he gets business.

“I’m here to ensure we achieve the cost savings the board has outlined and press ahead with the new projects. So I can’t make any promises about any modernisation. Those are out-of-band costs, extra costs, Charles. I shouldn’t need to remind you how much budget pressure we are under.”

He looks slightly cowed by her reply, as if he’s out of his depth, which she reminds herself, he is. She is more convinced than ever that Charles’ treatises will go nowhere now. You don’t pound on the door of the COO; it’s not a good look for anyone, no matter how senior or long they’ve been in the company. He’s doing it out of boredom, she thinks. Something for him to play with. She continues.

“In the meantime, how do you see us working best together? To avoid any misunderstandings or overstepping?” Let’s not fall for the charm and keep those dukes up eh, Chrissie? She can hear her father talking as she feels the weight of the words in her mouth.

Back in high school, back in the debating team at college. Those moments of training built up to times like this. She has already assessed the opposition and kept them honest to this point, and can then start manoeuvring them around the ring. This is what she knows. She has learnt from the best.

But she doesn't need to fear Charles. She also doesn't need to bully him. He is just happy to have the opportunity to explain his plan to someone who might be able to take action. He sighs and looks out of the window.

“Well, we’re not in the logistics business anymore, Chrissie. We haven’t been a logistics business for years. Look at those docks, they are virtually empty. The future is systems. That’s what Edgar Gerbach got so right. He understood that.”

Chrissie lets the veteran continue. He does so, slowly, picking his words carefully, but increasingly passionately. Almost pleadingly.

“We should ask ourselves why we still have these old systems when our customers want more? They want more flexibility. They want more power. We’re running on systems that are thirty-plus years old. They are creaking. We need to modernise. We need new thinking, new technology, new investment.”

This is the standard spiel she’s heard before. Give more money to technology. She tries not to roll her eyes.

“Yes, Charles, that sounds logical if we were staying in the logistics business, right?”

Charles isn’t listening, however.

“It’s our day-to-day. Did you hear that we had a pretty major incident last night with ChainLink?”

“When don’t we?” she answers sarcastically, almost out of frustration. He doesn’t get it, fixated on the past. When he doesn’t reply, she raises her eyebrows and pauses. Inhales. If it were that important, Ian would’ve called, surely?

“I’m sorry, I didn’t get the details. What exactly happened?”

Charles doesn’t seem surprised at her flippancy. He’s a master at controlling his emotions. She can sense something different this time. Something is wrong. He takes his opportunity calmly.

“What happened specifically is almost irrelevant. The fact is, we’re spending plenty of time and money chasing our tails. We could

be smarter and fix things as we go, rather than always playing catch-up. It's not all about the future right now."

Chrissie reassesses him. He is gently trying to get his point across. It's unlike this man to make a stand.

She almost blinks in surprise at understanding this, but she understands the warning. There is an otherworldliness to this situation. She has to remind herself that she is actually here. She is actually the one in charge. Suddenly she feels even more tired.