

CHAPTER TWENTY-FOUR

Delay

Vector stands at the sink and smiles. Water had been his idea.

Everyone wanted an airborne release. Alpha tried to insist on it. His bosses at the Military Biology Institute dismissed his ideas about waterborne bioweapons and forbade him to work on them. When those fools sent by the CDC came to track down the cause of the outbreak, where did they look? The air.

He fills a glass from the filter and drinks.

Vector stares at the empty glass. How wrong they had been.

He convinced Alpha that using water would make the pathogen easier to manufacture, would require far less virus, and would allow them to hit their targets with more precision.

Now he has his proof.

Suddenly, Vector raises his arm and throws the glass at the concrete wall of the apartment. It hits the wall with vicious force, exploding into hundreds of shards.

He has a problem.

The virus is too good.

He planned to complete all releases of the virus before the emergence of the first cases. Because the pneumonia occurred so fast, much faster than the lab tests suggested, he has completed

only three of the four releases. That is forcing him to revise the plan.

The change does not concern Vector. The virus worked. Americans are dying. He has hit three of the targets. The remainder would be taken care of tomorrow. It is only a few days, a minor course correction.

By this time tomorrow, phase I will be complete and he will have vanished. There is only one possible problem.

Alpha.

Alpha is not known for his flexibility.

The delay will not make him happy. And his rage is legendary. Vector once watched a man serve him tea that was too hot. When the tea burned Alpha's lips, he smashed the pot in the man's face. The pot shattered, breaking the man's nose and scalding his face. As the man screamed in pain, Alpha grabbed his forearm in two hands and snapped it like a pretzel.

But Vector knows that Alpha needs him. Without him, there would be no virus. And everything has been going so well. There will be few survivors.

The Fourth release will eliminate the last potential problem for the project. Once that is complete, the trial runs will be over and the last potential roadblock will be eliminated.

Then the games can begin.

CHAPTER TWENTY-FIVE

FBI

Inside the tree house Terry and I are trying to make sense of our discovery. I'm collapsed on Terry's bed while he sits at the computer to get the latest information on the outbreak.

Athena. I need to talk to her. But carefully. I turn to Terry. "Can I borrow your phone? They're probably watching mine."

Terry hands me his phone and turns back to the computer. "Who you calling?"

"Our favorite microbiologist, of course. I need to tell her this thing is waterborne."

In a nondescript office off an unadorned hallway in the uninspired monolith of the Federal Office Building, Special Agent Vince Hardacre pulls up the email message again. It's just one out of the hundreds of tips that have poured into the Seattle office of the FBI since the outbreak began. Everyone, it seems, has a neighbor that's a closet terrorist cooking deadly microbes in his basement.

He ignored it at first, but now he's giving it a second look.

From: Anon-34095672@cloak.ru

Subject: Seattle Outbreak

Date: June, 11 15:56:28 PDT

To: seattle@FBI.gov

I have reason to believe that the current epidemic is the result of a science project gone terribly wrong. A group of students at the UW Academy for Advanced Learning were attempting to create a vaccine for SARS.

SARS is caused by a strain of the corona virus. Another strain of the corona virus is often a cause of the common cold. The students tried to modify the cold virus to create a SARS vaccine.

They had the so-called vaccine in a backpack when the backpack was stolen. When the thieves discarded the backpack, the virus was released, causing the initial outbreak.

After the outbreak began, the students continued to work on the vaccine in hopes they could stop the outbreak and undo the damage they had caused. This resulted in a second release and a second outbreak, which infected the father of the group's leader, Jack Boston. Boston modified the vaccine again, hoping to correct the problem. He was sneaking into the ICU to give his father their third version of the vaccine when he was detected by security.

I am writing as a friend of these students who is concerned that they are in too deep and may create even more problems for themselves if they are not stopped. They may see this as a betrayal, so I am asking to remain anonymous.

It sounds crazy. But could it be true? It would explain why the kid snuck into the ICU. After all, abandoning his younger

brothers, disguising himself as a doctor and sneaking past armed guards into a hot zone is not typical, visit-my-old-man-in-the-hospital sort of behavior. Especially when his old man is drugged, on a respirator and unable to speak.

Was this the reason he's running so hard from the police? He must have understood that nobody was going to put him on trial for trying to visit his dying father. Why did he risk serious injury, maybe even death, to run from armed officers when it's unlikely he would be charged with any serious offense?

Hardacre opens a small fridge by his desk, pulls out a can of Dr. Pepper, and opens it. He leans back in his chair and takes a long drink. If this is even partially true, Jack Boston must be praying that he never sees the police again for the rest of his life.

It might also be a complete fabrication, but having an explanation not just for Jack Boston's behavior, but the entire outbreak as well is so appealing to Hardacre that he's tempted to believe what he's reading.

Hardacre didn't like the anonymous bit. He wants to see an informant before he decides to believe him. Like his mother used to say, "Never buy a melon you can't squeeze." But he can't ignore this.

Hardacre examines the header. He understands that it came from an anonymous remailer in Russia. A person anywhere in the

world could send an email and they would resend it with a new, unique email address. The data linking the two email addresses was routinely destroyed making it untraceable.

He stares at the text for something that would tip the informant's hand, some equivalent to the mannerisms, body language, and fidgeting that told him whether or not an informant was telling the truth. The slightest tremor in a suspect's voice is enough for Hardacre's experienced ear. The typed words offered nothing. He hates the damned Internet.

Whatever his doubts about the email, Hardacre has decided that it's time to stop screwing around and pick up Jack Boston. At least that part would be easy. A teenager is no match for the FBI.

A voice echoes down the hall.

"Boss! Boss, come here! I think we've got something. Come have a look." It's Martin Sworski, the office's expert on digital surveillance. Sounds like he's hooked a fish.

Hardacre jumps up and walks down the hall to the office where Sworski, a round mound of humanity with long hair and a thick brown beard, sits with headphones on in front of a bank of computer screens. One shows a scrambled image of a talking head.

"Margolis just got a call," says Sworski. "They're on video chat, but they're encrypting the signal." The image and the sound had dissolved into static.

"Can you trace it? Where's it coming from?"

"It'll take a minute. It's coming in over the Internet. We're working on a backtrace."

"Well do it fast. If we can't figure out how to pick up a fifteen-year-old kid, we should all lose our jobs."

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The 128-bit encryption that I set up for the phone call should keep them from figuring out what we're saying. Routing the call through a chain of five different servers, should slow down any backtrace. It isn't bullet proof, but it will give us a few minutes to talk. The code I installed on each of the servers will let me know when it's been identified.

"Jack? Is that you?" Athena's voice crackles with tension. "I tried to call you. I've got some news."

I stared at the five icons I set up on his screen to represent the five servers. They will turn red as soon as they are breached.

"Hi Dart. Look, we don't have much time. I need your help. It looks like this thing, whatever it is, has to be spreading through the drinking water."

An icon on my screen turns red. I'm hoping they have a harder time with the next ones.

"Boy, Jack, I don't think so. SARS doesn't spread through drinking water. Plus, if it could spread through water, we'd see way more sick kids."

"We reconstructed a map of the cases from my father's data. The pattern we found can't have been caused by something in the air. It just doesn't fit the physics."

The second light flashes on my screen. Damn. These guys are good.

"I'm not so certain. How can you be sure?"

"I can send you a diagram. The cases form a triangle. Something in the air would form some sort of distorted oval. The only way to get this sort of triangular clusters is from something spreading along a grid. Trust us."

"I'm still not totally convinced. SARS is an airborne virus. We are seeing respiratory infections in adults, not GI infections in children."

"I don't know about the microbiology, but the cases follow the distribution of the drinking water pipes."

"Maybe you're right, but listen. I found something more important. Something in your dad's note."

A third light flashed on the computer. The FBI has found their way to the third of the five servers. I smile. The next server is sure to slow them down.

"We've got it," says Sworski, "We've found the server."

Hardacre slugs down his Dr. Pepper as he stares intently at the screen. "So where is it?"

"Just a second, I'm mapping the IP address." Sworski types feverishly. A window opens on his screen. Hardacre leaned in closer to the monitor.

Then, for a moment, both of them stare at the screen, mouth's open, speechless.

"No way. No freakin' way."

Sworski's face flushes as began typing furiously.

"This is a joke, right?"

"I'm checking. I'm double checking."

They both watched the screen. Hardacre's face tightens and a vein in his temple bulges. "How in hell does a 15-year-old route his phone call through our damned server." He hurls his soda can at the door, sending a geyser of Dr. Pepper across the room. "We can not let some smart-assed kid dance on our freakin' heads. Get him."

"I'll do whatever I can."

"I don't care what the hell you "can" do. Just find him. Beat this kid."

"Cut to the chase, Athena, we're running out of time. What's up with the virus."

"Not the virus. The viruses."

"What do you mean?"

"Remember how your dad's note said, 'More than one'?"

"Yeah."

"Well I think he was talking about more than one virus. I don't know how he figured it out, but it looks like the people who are sick were infected by two different viruses at the same time."

"How do you know?"

"When I look really closely at the blots from Sam and your dad, I see two sets of bands. One set of bands is very faint in Sam's blot and dark in your dad's. For the second set of bands, the intensity switches, dark for Sam, faint for your dad. That's why I thought they were completely different when I first looked."

"So what do you make of it?"

"Well, there are two possibilities. The first is that the second virus was just some random bug that Sam brought home from preschool. Sam gets it and soon all four of you have it. Some of you get symptoms and some of you don't. When you took the sample

from your dad, there were a few viral particles lingering in his lungs."

"What's the second possibility?"

"This is more of a stretch, but it would explain some things. Suppose a terrorist has intentionally used two viruses. Two viruses could be far more deadly than one. SARS kills only 15% of the people it infects. Dangerous and deadly, but not a great choice for germ warfare. Add a second virus, one that causes a low-grade lingering infection. Not a problem until the pneumonia hits. Now the victim is weaker and the first virus takes off. It hits the brain and wipes everyone out."

My mind boiled with questions. "But Sam was throwing up...and he was only sick for a couple of days."

"The nervous system, especially the brain, is very well protected. A virus often hits some other part body and then seems to disappear. It reemerges days, or even weeks, later in the nerves or the brain. Polio looks like the flu at first. Then it paralyzes you."

"But if the two viruses were released at the same time, why didn't they get sick at the same time?"

"Different incubation periods. The SARS virus just takes longer to show symptoms."

"And why was Sam so much sicker than everyone else?"

"In some ways, a virus is like a poison. The bigger the dose, the worse the symptoms and the faster they appear. For some reason, he must have gotten a big dose."

"Does that mean Sam is going to get encephalitis?"

"Not necessarily. It may be the second infection, the SARS-like infection, that allows the other virus to reach the brain."

I was silent. "So what do we do?"

"This changes everything, especially for your dad. Everyone is looking for a vaccine to stop the SARS variant. If they can do it, it will only help people who haven't been infected with either virus. It won't help people who are already sick because it won't touch the encephalitis virus, which appears to be the one that is causing the encephalitis and killing people."

"So this means there's no way to help my dad?"

"Well, it just might give us an opening. If we could somehow get a vaccine for the encephalitis virus, it might be our best chance yet to save your dad. If we can get him a vaccine before he shows signs of encephalitis, we might have a shot at saving him."

"Can we use this EVAP thing on the encephalitis virus?"

"I don't see how. I can't even show these results to my mom. She'd kill me for bringing that virus into the lab. And we still don't know why Sam got the second virus, but not the first? We also need ..."

"We've gotta go." The fourth light had just flashed on My screen. He would have less than a minute to disconnect and run the code to erase his history from the last server.

"What do you mean?"

"The FBI is about to find me. Peace out."

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Athena's screen went blank. She shook her head in disbelief. "The FBI?" she whispered. "Peace out? What are you doing to me Jack Boston?"

CHAPTER TWENTY-SIX

Showers

I stand with my palms on the cool tile walls. The steady spray of hot water runs over my back. It could be a while before my next shower.

I close my eyes and try to put the puzzle together. My father got pneumonia from the SARS virus. A different virus infected my brother and made him vomit. For some reason, I never got sick.

And, if my theory is right, something in the drinking water had made them both sick.

The facts seem clear.

But they make no sense.

I turn off the shower, dry off, and pull on my clothes. The mirror is fogged, so I use a towel to clear a spot to brush my hair. For a moment, I just stare into my own, tired eyes. Mist fills the small bathroom and, in a moment, clouds the mirror

again. As I reach for a towel to wipe the mirror a second time, it hits me.

The pieces tumble into place, one after another. It all fits. The note, the map, the two viruses. Dad had figured it all out.

"He knew," I whisper to myself. "He knew."

I slip out the back door of the house and dash to the tree house in a low crouch, hiding from view of the street in case the FBI is watching the house. I scramble up to the tree house and clamber in, breathless with excitement, my hair, dripping wet.

"I've got it," I announce to Terry who has turned in his chair to talk with me.

"Got what?" Multiple search windows fill the screen behind Terry.

"How it's spreading."

"Enlighten me, my little June Bug." Terry turns his chair to face me.

"It's spreading through the air." I make small circles with my hands.

Terry's face twists into a quizzical look. "That's it? That's your revelation? I thought we just decided it's going through the water pipes."

"It is."

Terry shakes his head. "I don't know what you were smoking in the bathroom, but you're a bit foggy."

"Exactly."

"Sit down. You're confused and you're doing your best to make me confused too. Let me know when you've made up your mind on this. Is it drinking water or air?"

"Both!" I open my arms wide.

"You can't have it both ways, bro."

"Yes, you can. We keep talking about drinking water, but, just because it's called drinking water, doesn't mean we only drink it." I gesture towards the house, "When I was taking a shower, I was standing in a cloud." I pause to let Terry think about what I am saying. "I was breathing drinking water."

Terry nods. "I'm with you."

"And my dad knew it. He knew it was in the water."

"What do you mean?"

"When I saw him," My voice, I realize has suddenly dropped to a barely audible whisper, "He tried to tell me."

"Your dad?"

"He tried to tell me."

"When? Where?"

"In the hospital."

Terry shook my head. "I'm losing your signal. Yesterday, you told me your dad was knocked out in the hospital with a hose

down his throat. Now, all of a sudden, He's having a conversation with you about epidemiological fine points."

"Well, I didn't think anything of it until now, but in the hospital, as I was leaving his room, my dad suddenly sits up. I can see that he wants to tell me something, but he can't talk with the tube from the respirator down my throat. I try to get a pen so he can write down what he wants to say. Before I can do it, he collapses and knocks a glass of water to the floor."

Terry puts his hand on my shoulder. "Are you trying to tell me your dad knocking over a water glass is some secret message? Can you say accident, dude?"

"Yeah. That's what I thought. But think about this. He is struggling against gravity with everything he's got just to sit up. When he collapses, he collapses backwards into the bed."

"But the water glass is at the far end of the table. He has to reach forward to knock it over. He can only have knocked the glass down by reaching for it. On purpose. He's sick. He's drugged up. He knows he only has a moment. He wants to tell me to look at the water. He's looked at these maps. He understands what we figured out. So before he falls back into bed, he summons all his energy and knocks over the glass. It was all he could do."

"I'll give you a maybe on that." Terry pauses, thinking. "Do you still have your father's note?"

"Sure." I pull out the crumpled slip of paper and smooth it on Terry's desk, "Here."

? Gardens

Plant data

Morning = no kids

More than one?

Compare S with sample from adult

XV-17!?

Terry leans over it. "OK, so you compare the samples and Athena tells us there are two viruses, not one. That takes care of two clues." He points to the first two items. "What about plants and gardens?"

"Right," I say, leaning in next to Terry to read the list, "I thought about that. I think the bit about plant data refers to water treatment plants, not the kinds that grow. I don't know what his note about gardens refers to, but I don't think it has anything to do with vegetables."

"OK, so the 'gardens' clue is still a mystery. What about 'Morning = no kids'. I know why it says no kids, but why 'morning'?"

"Look, most young kids don't shower at all and most of the kids I know who take showers, take them in the evening or afternoon, after sports or something. Nobody wants to get up early enough to take a morning shower. Adults take showers in the morning. So, if somebody releases this in the morning, it would mostly affect adults."

"What about the business with the sample from Sam? Why did he get sick? He doesn't take showers, does he?"

"Remember I told you that there are two viruses. It must be possible to get the encephalitis virus by drinking or breathing. Sam drinks water like a fish. That's why he was puking more than everyone else. He must have gotten a dose of the encephalitis virus."

"Wow." Terry shakes his head in disbelief. "That is some shower you just took. Did that explain XV-17 too?"

"No. That's some code only my father knows. Otherwise, it all fits."

"Four clues down, two to go."

Terry and I stare at the note until Terry breaks the silence.

"Wait a minute," says Terry, as he spins to face his computer screen.

"What? XV-17? You know what it is?"

"No. No. Give me a second." Terry opens the webpage for the National Library of Medicine and began to scan through a series

of scientific papers. He stops at one and begins to read through. "Yep. It fits. It all fits."

"What fits?"

"Your father's note mentions gardens, with a question mark. We thought he was wondering about gardens as a source of the outbreak. But the question mark is before the word gardens, not after. And the 'G' in gardens is capitalized. He wasn't wondering about whether gardens were the source. He was trying to remember the name a particular Garden. Actually the name of a building. Savoy Gardens"

"Savoy Gardens? Isn't that a property in Monopoly?"

"Well, while you were freshening up at the spa, I was pulling together some references. It turns out the biggest local outbreak in the original SARS epidemic was at an apartment complex in Hong Kong. A bathroom vent pipe was not properly installed. As a result, contaminated vapor from the bathroom was spreading through the airshaft of the apartment. It was spreading through water and, then, air. Over a hundred people wound up in the hospital. The name of the apartment complex is Savoy Gardens."

I stare at Terry with wide eyes. "Savoy Gardens?"

"Right."

"In Hong Kong?"

"Right." Terry knows me well enough to know that an idea is forming. "What are you thinking?"

"It all fits."

"What do you mean?"

"When he was on the phone arguing about the outbreak the night before I got sick, my father mentioned Hong Kong. He said, 'This is just like Hong Kong.'"

"Sounds like you've cracked the case, Sherlock."

"Well I still haven't figured out the XV-17 thing."

"Who cares? I mean that's some deep code from your dad, but everything else fits."

"I guess you're right." I sat on Terry's bed. "Everything ..."

A ringing phone breaks into the conversation. Terry reaches for it. He looks at the caller ID.

"Who is it?" I ask.

"It says Seattle Public Schools," says Terry as he slowly picks up the phone. He hesitates before speaking. "Hello."

A look of shock fills Terry's face. "Ah...No, Sam, Jack's not here."

"Sam?" I mouth. I reach for the phone.

Terry looks at me and shakes his head, waving me away. "Can I help you, Sam?" Then horror fills his face. "When Sam, when?" Terry listens. "Jack's trying hard to help you."

I could hear my brother's tearful voice through the receiver. "I need him. Where is he?" I grab the phone from Terry and hold it to my ear.

"Jack?" Sam's voice sounds like loneliness. "Jack? Is that you?"

"F.B.I." mouths Terry, miming someone listening to a headset and shaking his head.

I hesitate. Listening. I understand that by speaking on the phone, I will be giving the FBI an open invitation to enter the house. But I have left Sam alone too long. I will just have to get out before the FBI gets here. "Sam, Sam, It's me. Are you OK?"

"Jack?"

"Yeah. It's me little buddy."

There is a long silence. Sam takes a deep breath. Then his voice comes, so quiet I can hardly hear it. "I need you."

The sound of my brother, so small and alone, cuts through me. How could I have abandoned Sam and Abe? "Sam, I'll come see you soon. I just need a little longer to help Dad. But I promise I'll be there soon." For Sam's sake, I have to be strong.

Silence.

Is there something else bothering him, something more than loneliness? "Are they treating you OK?" I ask.

Terry is drawing circles in the air with my finger, trying to tell me to wrap it up.

Sam gasps for air. When Sam finally speaks, his voice cracks and wavers. "It's Abe."

"Abe? What happen to Abe?"

"Yesterday, they took him." Sam's voice is barely audible.

"Who took him, Sam? Where?"

"To the hospital. Like Daddy." Sam's voice dissolves into tears.