

## LITTLE WING

Noah was perfectly focused on his work, until startled by a loud “thunk!” on the window above his desk. He looked up and out. There were no signs of it, at least not visible from the second story of the townhouse apartment. But twice before he had found dead birds on the front step after such thunks.

It was after four o’clock on a beautiful early spring day. And he thought how any minute now a lovely girl would be arriving home from her job at the non-profit, on an orange bike, with her blue backpack. That same girl had suggested more than once that he put up a screen, or at least let the window get very dirty, so that the birds wouldn’t be confused and think it was open sky. But he loved the view too much to hinder it so.

His phone rang, a second startle.

“Hello? ... Wally? ... Of course, we worked together for five years! How’s it going?... Good.”

Downstairs a door opened and then shut. A woman’s voice called out in greeting.

“Er, no. Things are great here. ... That’s right. ... So why are you calling? ... Yeah. For the hurricane Martin cleanup? Of course I remember that. What about it? ... What? ... As in, Department of Homeland Security?”

The woman walked into the room, silently. Her hair was a bit matted from a recently worn bicycle helmet. Noah smiled and waved hello.

“What do they mean by that? ... That’s ridiculous. ... Are you crazy? ... Wally, it’s not that I don’t believe you. But – ... Sam’s right there? Put her on.”

“Hi Sam. ... I guess so. There’s not much on my calendar Thursday and I can rearrange things to be there. ... It will be good to see you, too. ... Okay. I’ll text Wally my flight info. ... See you Thursday.”

Noah put down his phone and tried to quickly gather his thoughts for the next conversation.

“Noah? Did I hear you say ‘flight info’?”

“You remember Wally and Samantha from my work in Atlanta, right?”

“I thought we agreed no travel? I’m not having this baby alone. You *are* going to be there.”

“Kate, you are barely four months along. It’s just a day trip. Nothing’s going to happen while I’m gone.”

She squinted her eyes and glared at him. Noah found their exchange humorous. He knew that Kate was fearless. She didn’t need him or anybody else by her side to get things done. But the pregnancy had made her, shall we say, single-minded.

“Okay. But no more travel after this one, right? Right?”

Noah smiled affectionately, and somewhat conspicuously did not vocalize a response. Kate tried to keep her serious face, though a slight smile betrayed her.

“But why are you going? What’s up?” asked Kate, her seriousness replaced by curiosity.

“Apparently, I am a ‘person of interest’ ...”

Late that Thursday morning, Noah arrived at Atlanta’s Hartsfield-Jackson Airport. The DFW and ATL route was one Noah knew very well, having flown it many times when he and Kate were dating. But this time the flight surprised him by arriving a good twenty-five minutes early. He took advantage of the extra time and stopped at a café in the airport’s Atrium for a quick bagel sandwich and coffee.

As Noah sat at his table eating his sandwich, he looked around the familiar Atrium – the multiple-stories high space, the impressive glass dome skylight, the large trees in massive planters. Then something unexpected caught his eye: a sparrow. It would fly to a tree. Or hop along the floor. As though this Atrium was its place.

“Oh, that’s not right,” Noah thought. “How did that bird get in here?”

He watched it intently, following its moves under a table, to a tree, down in a planter. Back under a table. Nobody else seemed to notice the little bird. And Noah admitted to himself that the sparrow seemed very much in its element: the trees, the sun spilling through the large skylight, plenty of airspace for flying. And hadn’t birds inspired men to fly? It was only appropriate that a bird be honored with a place in the airport. The bird hopped under Noah’s table, close to his feet, and pecked at some breadcrumbs left by a previous customer.

“Maybe the bird is actually supposed to be in here? Like it’s part of the whole Atrium environment?” Noah wondered.

The sight of the bird indoors, which was so jarring at first, now somehow seemed totally appropriate. He even felt a little embarrassed with his original shock. Obviously, nobody around him was reacting with any concern or surprise. “It must be fine,” he thought.

But just as these new thoughts were about to take hold, the sparrow flew back into the food preparation area of the café, and a worker let out a scream. A big kerfuffle followed.

“I knew it! That bird was *not* supposed to be in here,” Noah told himself, as though it was a minor triumph of his reasoning.

Noah stood and gathered his trash from the quick meal and was off to meet his ride.

Just outside door N3, Noah met a man in a dark suit and dark sunglasses. He looked as though he spent all his time at the gym or sipping protein smoothies. The two shared a long and quiet drive to a non-descript office tower in Midtown, and then a long and quiet elevator ride to reach an upper floor conference room.

An older gentleman greeted Noah as he entered the conference room.

“Mr. Rutgers, thank you for coming. I’m Agent Henderson. Please have a seat.”

The man's voice and demeanor were somehow comforting, in a James Earl Jones sort of way. But the room was otherwise filled with a disconcerting menagerie of characters. There was a man with a mustache and an active attachment to his laptop keyboard. There was an older lady with mostly still red hair. By one door stood gym/smoothie man, and at the other door was his dark suit and sunglasses twin – except the twin seemed more accustomed to couches and pizza.

Noah took a seat next to Wally, who was sitting next to Samantha. Even these two old friends and co-workers added to the odd mix in the room. Wally had the same scruffy beard as always, as if it was a software engineer requirement. But Noah couldn't remember seeing Wally wear a suit and tie before, and there he was, in conservative navy.

Sam still looked like the Sam that everyone in their old work group had some sort of crush on. The Sam that arrived at the office announcing the solution to whatever problem the group was stuck on the day before. The Sam that got the whole group addicted to K-dramas. But Noah thought something was different about her, too. Something had changed.

“Mr. Rutgers, let me first assure you that you are not under any suspicions. The Department was conducting a routine review of some matters, and a series of messages involving you, Mr. Walter Davis, and Ms. Samantha Yi caught our attention. We already have the background and perspectives from our discussions with Mr. Davis and Ms. Yi, and just want to get your insights on the same. Shall we proceed?”

“Yes. Please,” replied Noah.

“Four and a half years ago, you were on a bus returning to Atlanta from Panama City, Florida. Your employer, BGT, had chartered the bus for a large group of employees to go down to help with flood clean-up a few weeks after hurricane Martin. On that return trip, while most of your colleagues were sleeping, you and Mr. Davis and Ms. Yi traded several notes on the company's instant messaging application. Are you with me so far?” Agent Henderson asked.

“Yes. I remember that.”

“And what was the topic of your messages?”

“Well, I'm sure we talked about a lot of things. We were amazed by the scale of the devastation. We speculated on the scope of the insurance claims, since in our jobs at BGT we were involved in catastrophe modeling for reinsurers and insurance-linked securities.”

“Did you not also lay out a framework for terrorists to take advantage of natural disasters?”

“What? No,” Noah replied. Since the call from Wally, he had been trying to recall their series of text messages, but most of it was still hazy in his mind.

“How about this: ‘The claims are going to be massive. Too bad for them this wasn't a terrorist act since acts of terrorism are excluded from most policies.’ Or, ‘How are you going to convince the Treasury Department to certify it under TRIP? Assuming you can't actually cause the hurricane.’ Or, ‘So you don't cause it, right? But with the butterfly effect, who's to say? You have to have so much more data and so much better modeling that you can predict the storms well in advance of NOAA and the NHC.’ Does any of that ring a bell?”

“Those messages were idle musings. One of us started a random speculation and we traded a series of ‘what if?’ notes. Nobody was taking it seriously,” Noah protested.

Henderson continued, “Tell me, what is ‘TRIP’, Mr. Rutgers? Or ‘butterfly effect’?”

“TRIP is the Terrorism Risk Insurance Program. Butterfly effect is a reference to sensitivity to initial conditions in chaos theory, where a small change in one state can lead to a large change in a later state.”

Noah saw only blank stares, so he elaborated. “A classic illustration of this idea is a butterfly flapping its wings in a Brazilian rainforest influencing the formation of a tornado weeks later in Texas. Thus, the name ‘butterfly effect.’ Maybe think of it like this: you simultaneously drop two *almost* identical wooden sticks into *almost* the same spot of a river. But as those two sticks interact with the complex dynamics of the flowing water, they are sent on wildly different paths and may end up miles and miles apart.”

The room fell silent. The mustached man even paused his typing. Henderson put his hand to his chin and pondered for a moment before restarting the conversation.

“I think I’m sorry I asked. Let’s return to the messages from the bus trip, shall we? How about this one: ‘If you can get on the right side of all those contracts, you could make a lot of money.’ Or ‘Hurricanes, floods, tornadoes – that’s how you can cause mass destruction as a terrorist while still maintaining your environmentally friendly credentials.’ Sound familiar?”

Agent Henderson continued picking through wording of the old text messages and peppering Noah with questions for almost an hour. Around the table, the clatter of the mustached man’s laptop keyboard grew increasingly annoying. The quiet of the red-haired woman grew increasingly ominous. Noah’s own tie felt increasingly tight around his neck. Meanwhile, Wally and Sam sat silently, generally avoiding eye contact with Noah.

Finally, Henderson seemed to shift gears, and the mood lightened. Any danger seemed to have passed. Noah, Wally, and Sam all relaxed slightly back into their chairs.

“This has been very helpful. Thank you, Mr. Rutgers – actually, all three of you. Thank you for meeting and being so forthcoming in your responses. Just one last question for you, Mr. Rutgers. The year after the hurricane, your manager at BGT, Mr. Thurgood Burke, left to form a new company, called Quantum Augury. Ms. Yi, Mr. Davis, and several other colleagues joined him at Quantum Augury, or ‘QA’. You, however, did not follow Mr. Burke and join QA, but instead moved to Dallas and took a position with a large healthcare company. Why was that?”

“Several reasons, I suppose. I was about to get married, and my fiancée lived in Dallas. Just didn’t seem the right time for me to join a new start-up. And I had an interest in infectious disease modeling.”

“I see. That makes sense. Thank you all again. You are free to go. We know how to find you if we have any further questions.”

With this, gym/smoothie man escorted the three to the elevator, and they left the menagerie behind.

Sam, Wally, and Noah made their way down to the MARTA station. Sam and Wally decided to take the ride with Noah to the airport and spend a little more time together before Noah’s flight back home. The train was crowded, and they kept their conversation light as they caught up on the happenings of the last

couple of years: QA's well-publicized successes in the big data industry, Wally selling his Tesla and buying a new electric Ferrari, Noah's work within the bowels of a giant healthcare corporation, and Kate expecting their first child.

After reaching the airport, they picked up some drinks and settled down at an isolated table in the Atrium, where they could talk more privately. Noah saw no signs of that morning's Atrium sparrow.

"So, about our little interrogation," Noah began. "You guys didn't throw me under the bus before I got there, right?"

"No! Of course not," Wally responded.

"We were all three very clearly *in* the bus. Don't you remember?" Sam said with a smile.

Noah grimaced.

"Everything you said was perfect, Noah. Right in line with what I said and what Sam said."

"Hard for me to win at prisoner's dilemma when you guys were sitting right there! But this was a farce, right? How can they possibly take any of this seriously?"

Wally and Sam exchanged a quick glance as Noah continued.

"That whole terrorist scheme was a joke! You remember the real take-away from that bus trip, what started that whole train of thought? A little outside of Panama City, the sun was going down, but it was still light out. And I saw this huge stork gliding into a nest high in some trees over the wetlands. And it struck me how this bird was carrying on with life, catching fish, eating, returning to its nest. Like normal. We were only three weeks out from the hurricane and its massive flooding, and the wetlands looked normal, and stork's life was normal. And we had just come from human habitations in complete disarray, garbage strewn all over the streets, dry wall needing to be ripped out of every house, the stench of rotting something everywhere. Devastation that was going to take months and years to repair. And I thought, 'Why can't humans, as smart as we are, build our environments more resilient to natural disasters?'"

"And from there we arrived at the environmentally friendly terrorists profiting off those disasters. Weird leap, right?" Wally offered.

"Nice passionate speech, Noah. You should do a TED Talk or something," said Sam, with some sarcasm. "But I have a question for you, different topic. Why really did you not join us at QA? Burke was grabbing up all the best actuaries and software engineers in the department, which clearly would have included you. Was it really for stability? For settling down to married life? For Kate?"

"No, that's not it. Kate is actually very adventurous, more so than me. If I had wanted to stay in Atlanta and work at QA, she would have been totally good with that. She would have moved for me instead of the other way around. All of which makes it even harder seeing how well you guys have done. I read all the news articles. The big feature on Bloomberg last year? You guys are filthy rich, right?"

"It's not all that," Sam suggested. "We are doing some innovative work with quantum computing and very large data sets. It's an exciting place to be because of *that*. All the press, the big Series B funding – those are distractions really."

“Sam’s right, you know. The new cars, the penthouse apartment, the suites at the Atlanta Hawks and Falcons games – those are all very distracting,” Wally said with a laugh. “But seriously, Noah, why didn’t you join us? Did Burke not offer you a position?”

“We talked. You know how Burke is. Brilliant and super-ambitious. Not a lot of time for people development. Either you are on board with him and full speed ahead, or you’d better just cut yourself free. For some reason, I was never fully comfortable with Burke as my leader. I’m sure he detected I was only 99% on board.”

“Fair enough,” said Sam. “Thurgood Burke doesn’t have a lot of time for hesitators or naysayers. Still, do you regret not joining us?”

Noah thought a few moments before responding. “Deep down? No. Life is good. I don’t have regrets. Envy? Yes. Plenty of envy. But no regrets.”

Noah hoped his words were true. Maybe saying them out loud made them more true.

“We could put in a good word for you. Maybe you could still join us,” Wally offered.

But then Wally turned abruptly and caught a stare from Sam, as if he were reacting to a kick under the table. The three sat silently for a moment.

“We’d better get going and let you catch your flight,” Sam said. She stood and gathered their cups to carry to the wastebin.

As soon as Sam was away, Wally leaned in toward Noah, “We’ve done it, you know.”

“Done what?” Noah replied, instinctively in a hushed voice.

“Built the network. Birds. Hornets. Butterflies. Even squirrels. And some drones, too,” Wally spoke quietly, but with eyes and smile that were borderline giddy.

“Wally, what are you talking about?”

“Data points. Hundreds of millions of them. We’ve got them all connected. And the model to back it up. We’ve tamed the chaos! If a butterfly flaps its wings in the rainforest, we know about it! But the birds are the most useful. Pigeons. Geese. Seagulls. Herons. Sparrows. They all work for us now.”

Noah started a laugh, but checked it as he saw Wally was serious.

“Not the crows though. They deliberately distort their data feed, and then when they are done messing with us, they rip off their radio tags. Damn crows.”

Sam returned and Wally immediately cut the conversation as they stood up to go.

“Noah, it was great to see you again. Good luck to you and Kate and your upcoming addition!”

“Thanks Sam. It was great catching up with both of you. Maybe next time the circumstances won’t be so strange.”

But as soon as Noah said that, he doubted it.

In May, Noah caught the news that Thurgood Burke was appointed head of the Federal Insurance Office within the Treasury Department.

Noah texted Wally: “Just heard the news about Burke’s federal appointment!?! What???”

The reply came: “Bro, you should have joined us when you had the chance. That’s all I’m gonna say.”

But Noah knew Wally couldn’t *only* say that. He just had to get him “off the record.” He called.

The conversation wasn’t long, or especially enlightening. Noah asked probing questions. Wally responded with a lot of “No comment” and “Man, I can’t tell you that!” But occasionally he was a bit more colorful, if still opaque: “You know the man has ambition,” “We’ve got bigger fish to fry,” “Let’s just say our fox is guarding the henhouse now,” and finally “Dude, all warfare is based on deception.”

At this point, Wally’s “no comment” resolve finally toughened, and he ended the call. Noah wasn’t quite sure what to make of it all, except that something seemed wrong. Very wrong.

The summer proceeded normally in Dallas, which is to say hot and humid. But the Atlantic and Gulf coasts got battered. By mid-August they were already dipping into Greek letters for tropical storm names. Alpha, Beta, and Gamma all developed within a span of ten days, and Beta was a brutal one making landfall near Jacksonville. Noah was glad to be significantly inland, and out of the business of catastrophe modeling. Climate change was making that business challenging, to say the least.

One late August morning, Noah needed to drive into the office downtown for some in-person work meetings. Kate had stopped riding her bike three months prior with the progression of the pregnancy and the Texas summer heat. So, Noah dropped her off at her job, and then drove downtown under these strict conditions: he would keep his phone ringer on, he would leave downtown well before rush hour, and he would immediately leave the office if she went into labor. There was no reason that was going to happen today. But just in case.

By two o’clock, Noah was on the road and heading home. He was listening to National Public Radio, a habit from years back when he used to have a daily commute. But the regular programming was soon interrupted for a special Presidential press conference broadcast from the Four Seasons Hotel in Miami.

“My fellow Americans, these are challenging times. The natural disasters of this year have been unprecedented in their frequency and intensity. I know many of you have suffered and are suffering. Just yesterday we toured the Jacksonville area, where hurricane Beta caused so much damage. Jacksonville Beach and Ponte Vedra communities are still largely cut off. National Guard, American Red Cross, FEMA, and local officials are working hard to provide emergency relief and to restore services. Please know that your President will never give up on you, will never let you down, and will never desert you!

“We know the climate is changing. This administration is taking extraordinary measures to slow that change, and to fortify our cities, our farms, and our factories. We also must strengthen our scientific resources and our financial resources, including our insurance companies, so that we can all weather these storms together.

“But as ominous as climate change is, I come before the American people today to share news of something even darker, and more nefarious. If you thought this summer’s storms were not natural, you would have been right. Many were instead the blatant acts of terrorists. Several weeks back, the administration received claim of responsibility from a previously unknown terrorist organization, calling itself ‘Amalgamated Environmentalists’ or ‘AE’. This group has a radical agenda and claims they will use all manner of natural disasters to call attention to their cause, until we bow to their demands. They threaten to use hurricanes, tornadoes, floods, drought, extremes of heat and cold, and winter storms of snow and ice. The FBI, together with NOAA, the National Hurricane Center, and other federal agencies, have determined the claims to be credible, based on the details provided by AE, including uncanny early precision and detail regarding hurricane Beta and several other recent storms.”

Noah pulled off the road to better focus on what he was hearing.

“My fellow Americans, this is a war. It is America’s first war with meteorological terrorism. And I want to assure you that America will win this war just as we have won past wars: by working together. This morning the Department of the Treasury, after consultation with the Justice Department and the Department of Homeland Security, certified five of this summer’s hurricanes as terrorist acts. Several more storms are under review, as are the California and Oregon wildfires. By this certification, under the Terrorism Risk Insurance Program, we will release billions of dollars to support American insurance companies, thus supporting all of you.

“Furthermore, I am announcing the appointment of Mr. Thurgood Burke to head up a special meteorological counter-terrorism task force within the Department of Homeland Security. Mr. Burke has been spearheading our efforts on these difficult matters from his position in the Federal Insurance Office, and he is perfectly equipped to take on this new and critical role. These are dark days, but standing together we are up to the task.”

The President paused. Dozens of cries of “Madame President! ...” rang out from press corps members. Noah imagined their arms shooting into the air, questions swirling on their tongues, much like the memories shooting through the swirl of questions in his brain. NPR news analysts broke in with voice-over, in a feeble attempt to summarize what they had just heard.

Noah tried calling Wally from his phone synced to his car. He got voicemail, but with a message saying the voicemail box was full. Sam’s number gave the same result.

“What have they got themselves into? This is craziness!” Noah shouted, “This will be chaos!”

Then came a new thought: Agent Henderson. True, the man had grilled him mercilessly back in the spring. But Noah left that meeting with a respect for and confidence in that man. Henderson was someone you wanted on your side. Noah quickly found the main Atlanta office of the Department of Homeland Security on his phone and prompted his car to call. He navigated his way through a series of prompts to eventually reach a human.

“I’m calling for Agent Henderson.”

“Henderson? There’s no one in this office by that name,” replied the receptionist.

“What? No Agent Henderson? I guess I just assumed he was out of the Atlanta office. Big guy? Graying hair? Deep voice?”



“Oh, yes! James Henderson. I’m sorry, but he is no longer employed by the Department. You missed him by a couple of months. That’s all I can say.”

Noah ended the call with his mind back in disarray. The noise of radio news analysts retook his car speakers. He noticed his heart was racing and his breathing shallow.

Noah shut off the radio. He shut off the car completely. He took a deep breath, and slowly let it out. He closed his eyes. Kate had tried to teach him mindfulness – maybe something stuck. There were indeed metaphorical dark clouds out there, and some challenges he would have to face. But at this moment there was nothing more to be done. Noah relaxed into his seat. The noise of the passing traffic was a fluid – a ceaseless, cleansing wind. He was quiet and calm.

Then he startled at the ringing of his phone as it sat on the passenger seat. It was Kate.

“Hey, did you – ... Wait, what? ... Now? ... Who’s driving you? ... Okay. I’ll just meet you at the hospital. ... On my way. I love you!”

Back on the road, Noah refused to replay the radio news in his mind. He then considered what awaited him at the hospital – a small change to initial conditions that was sure to have massive downstream effects on his life. But this also proved too demanding to think about. Instead, he let his mind wander back to how he first met Kate: the pandemic shutdowns.

Noah’s cousin Rachel was Kate’s roommate at the University of North Texas. The pandemic hit second semester of their junior year. By fall they were mostly in virtual classes for senior year, and the normally vibrant campus social life was dead. So dead that when Rachel offered up a virtual blind date with her actuary cousin in Atlanta, Kate accepted. A very personal twist of fate in the midst of a universal pandemic.

For six months they talked, video-conferenced, and shared movies via Teleparty, separated by 800 miles. Finally, as vaccines slowed the virus’ spread and travel felt safe again, they planned a trip for Noah to visit Kate in Dallas.

Kate was attending a regional conference on affordable housing as part of an internship. The venue was a hotel just off the commuter rail line heading out of DFW airport. Noah was to meet her as the conference wrapped up, in the large dining hall adjoining the hotel.

Noah had two clear memories from their initial “IRL” meeting. The first was this: The large dining hall was packed and lively, even boisterous. It was as though everyone had been cooped up, isolated for over a year, and they were finally reconnecting with humanity. He searched briefly through the dining hall, and then he saw her. And suddenly the words of an old song flooded into his mind: “All at once, you look across a crowded room to see the way that light attaches to a girl.”

The second memory was this: He was determined that their first touch was not going to be awkward. What do you do when meeting someone for the first time, but not the first time because you have been spending hours and hours together for months and months – but only remotely? A polite and friendly hug. He had mentally rehearsed this over and over on the flight from Atlanta. She turned and noticed him. He walked to her and put his arms out in gesture to welcome a polite hug. But instead, Kate returned a long, emotional embrace. This was unexpected. This was good. This was very good. Noah loved replaying this moment in his mind.

Noah arrived at the hospital with little time to spare. Within an hour, Kate was holding their newborn daughter in her arms. He watched the two of them, amazed by the scene. From deep within him echoed the words “no regrets.”

After a few minutes, Kate offered her up to Noah. “Say hello to your daughter,” she whispered.

Noah nervously took the newborn up in his arms. Her eyes opened, looking at his face. She blinked. She had bright blue eyes, just like her mother. Two bright blue eyes, like little iridescent butterfly wings. Flapping. Flapping.

