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INTRODUCING:

The Alexandria Project, Chapter 1: Meet Frank

Andrew Updegrove



On the morning of Sunday, December 12, a morbidly obese Corgi named Lily was sniffing a tree on 16th street, in the Columbia Heights neighborhood of Washington, D.C. A cold, insistent drizzle was falling, but Lily didn't care, because Lily was sniffing at her favorite tree. Indeed, the meager processing power of Lily's brain was wholly occupied with sampling the mysterious scents wafting up from the damp earth, for this was the favorite tree of every other dog in the neighborhood as well.

Something more annoying than the rain was nagging at the edge of her senses, though. At last the sounds began to penetrate.

"C'mon, Lily! Hurry up!"

Lily turned her head. The distraction was coming from the individual at the other end of Lily's leash. She eyed him briefly, noting the sockless feet jammed into worn, black loafers. Above bare ankles, a pair of pajama-clad legs disappeared into a rumpled raincoat, out of which extended an arm holding an umbrella. The umbrella sheltered a stubbly, forty-something face topped by thinning black hair pulled back in a ponytail. Lily decided that the face did not look happy.

"Ah!" thought Lily. "That would be Frank." Relieved, she returned to the important work at hand.

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"**C'mon**, Lily!" repeated Frank.

The fact that Frank's face was not happy was not particularly remarkable. Even in pleasant weather, Frank usually towed a personal raincloud over head, incessantly dwelling on the minor miseries of his life. Not long ago, that cloud had turned jet-black when Doreen, his mother, entered a retirement home. After helping her move in, Frank prepared to leave.

His mother stood by the doorway of her new apartment, lower lip atremble as she held Lily in her arms with difficulty. It was clear that she was decompensating rapidly. No use dragging things out, Frank thought. Transitions are difficult, and best dealt with quickly.

"Well, Mom," he said, "I guess I'll be leaving now."

With a sudden lunge, Doreen thrust Lily into Frank's arms. He stepped back with surprise into the hallway, too horrified to allow himself to grasp the obvious.

"The home doesn't allow pets," his mother blurted. "I never could have taken the plunge if I didn't know Lily would be safe with you. Now don't you worry; I've made you her legal guardian, so it's all set. Now go! Get out of here, before I change my mind."

Frank desperately wanted her to change her mind. But his mother had already slammed the door in his horrified face. Despite her impressive girth Lily was only three years old, and acknowledged his existence only by barking. He could hear his mother sobbing on the other side of the door, and felt like crying himself.

That had been two long, loud months ago, and he was still in mourning.

"**Come on!**" Frank hissed. At last, Lily turned away from the tree, looked up at him reproachfully, and barked.

"OK, OK," Frank said, and fumbled in his pocket. He held a dog treat up for Lilly to see. "**OK?**"

Lily seemed satisfied, and began looking for just the right place to do what at last needed to be done. At last, Lily squatted, looking blankly ahead. Frank sighed with relief.

A blue plastic bag inverted over his free hand, Frank scooped up Lily's grudging gift. He handed over the biscuit, jerking back with fingers barely intact.

Frank watched Lily happily crunch away. "Isn't that just the story of my life?" he thought bleakly. "Every day I give her a cookie, and every day she gives me a bag of crap."

Making his way back through the rain, Frank reflected that his day generally went downhill from there.

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Lily shook herself mightily inside the door, wetting what little of Frank was still dry. Satisfied, she planted her substantial hindquarters firmly on the floor, looked at Frank, and barked. Frank sighed, picked the dog up, and carried her up the stairs to his second floor flat.

As he climbed to the top, his rising eyes met a pair of fuzzy pink slippers, and then a floral house dress, followed by folded arms draped with a bath towel. At last, the angry face of his across the hall neighbor appeared. Not for the first time, Frank noted the uncanny resemblance his neighbor bore to North Korean president Kim Il-Jung, only with hair curlers.

"Morning, Mrs. Foomjoy," Frank offered as Lily twisted wildly in his arms. He deposited the dog at her feet.

"Shame on you!" Mrs. Foomjoy barked as she knelt to massage Lily with the bath towel. "Poor, dear wet baby!" she crooned.

"It's raining, Mrs. Foomjoy," Frank observed. "Lily hasn't learned how to use the indoor facilities yet."

"Then why isn't she wearing the lovely rain jacket I gave her?" she snorted. "What is **wrong** with you? You don't deserve a dog like this!"



Frank couldn't have agreed more. Lily groveled at Mrs. Foomjoy's feet, and then leaned to the side until gravity obligingly rolled her over onto her back. Whining ecstatically, the dog gazed up adoringly with goggle eyes as Mrs. Foomjoy rubbed her stomach.

His neighbor grabbed the leash from Frank's hand when she stood up. "I'll see to the welfare of this dog!" she snapped. A moment later, her door slammed shut, leaving Frank standing alone in the poorly lit hallway, a warm, blue plastic pendulum swinging slowly from side to side in his hand. Startled but relieved, he entered his own apartment, and softly shut the door.

Frank hung his dripping raincoat on the hook in the linoleum floored hallway. At one time, his apartment's décor might have been described as "late Twentieth Century divorced middle aged male." Now the most obvious theme was pervasive clutter. He poured a cup of coffee and sat at the small table in the small kitchen and looked at the large laptop screen that stared blankly back at him. With resignation, he turned it on.

Normally, the sound of a computer booting up would have struck him as cheerful; the imperceptibly soft whir of the cooling fan spinning up to speed; the blinking lights at the edge of the keyboard; the screen phosphorescing with a pearly glow. After all, [information technology](#) – IT – was not only his profession, but a major part of his way of life. Computers provided Frank's preferred link to the world outside. Digital links were safer, he thought, bringing him about as close to his fellow man as he usually wished to be. Closer than that, and things were apt to become unpredictable.

Which brought him back to the night before. Be honest, he mused ruefully. You got what you deserved. Or didn't get what you didn't deserve, to be more precise.

Frank sighed. Should he, or shouldn't he check his email? The rational side of his brain said, yes, what's there is there. Deal with it.

But the other side of his brain had a different suggestion: "Go back to bed," it whispered, "It's Sunday. You don't have to deal with anything today." That was true, he thought. Who knows what might happen by Monday? There could be a typhoon by then. Or maybe giant pterodactyls would erupt from a wormhole in the Mall, sending tourists streaming for the safety of Metro stations. That side of his brain was lobbying strongly to take two aspirin, pull the covers back over his head, and let reality take care of itself for another twenty-four hours.

Frank sighed again. He might as well see sooner than later what people from his office had posted on line. A few clicks later and he was at Mary the receptionist's Facebook page. Yes, there were pictures from the party. Lots of them. Later would do just fine after all, he decided. He snapped the laptop shut without turning it off.

The sad thing was, Frank had actually been looking forward to the [Library of Congress](#) IT Department Holiday party. He had brought his daughter Marla with him, a Georgetown University grad student, and he appreciated the great impression she always made on his co-workers. Unlike her Dad, Marla was self-assured. She worked the crowd like a pro, chatting and shaking hands, laughing and poised. How could he feel anything but proud of her? It was hard not to drink a bit more than usual as he watched from the security of the bar in the rear of the function room.

More to the point, Frank had been looking forward to making Marla feel proud of her old man as well. Everyone knew that the Director of IT at the LOC was going to announce his choice to head an important security initiative mandated by no less than the Cybersecurity Subcommittee of the House Committee on Science and Technology. Frank figured he had the job all sewed up. After all, he was, or at least at one time had been, a recognized cybersecurity expert – a McArthur "Genius" Award recipient, no less - for his creative work in the early days of computer networking.

So when his boss stood up and tapped on his glass, Frank sat up straighter. He listened as his boss welcomed the spouses, thanked his staff for their work that year, and told a few jokes at his own expense. At last, he began to make the announcement that Frank was waiting for.

And then it happened. One moment, Frank was looking sideways to see the reaction on his daughter's face when the announcement was made, and the next he was hearing someone else's name instead. And not just any name, but Rick Wellesley's name – "only out for himself" Rick, a person who had never had a creative thought in his life, someone who had even briefly reported to Frank when he first came to the LOC. **Rick Wellesley?** How could this be happening?

But it was. There was Rick, standing and basking in the applause, glancing briefly and triumphantly in Frank's direction. Frank was stunned, his face burning. And then angry. Without a word to his daughter, he stood and walked to the bar, turning his back on the party as George finished up. Knocking back another drink, Frank felt foolish as well as angry. Everyone must have turned to look at him, he thought, but he

was afraid to turn around to find out. He stayed at the bar until Marla came looking for him.

Sitting now in his kitchen, Frank felt his face burn again. After all, he thought, everyone had expected the job to go to him. Then, with a wrenching feeling, he had a worse thought – what if no one had expected him to get the job? Maybe he was the only one in the whole damn department who hadn't seen it coming. Maybe everyone had been laughing up their sleeves at him as they watched him bask in his expected glory, just waiting for his jaw to drop when he realized that he had been skunked by Rick. Of course that had been the case, he thought wretchedly. He was convinced of it.

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And why not? What had he really done in the last 20 years? Sure, he'd become a star at the [Massachusetts Institute of Technology](#) – just "MIT" to anyone in the know. He'd enrolled at the age of 16 after skipping two years of middle school, not that skipping a few grades was unusual at MIT. But as an undergraduate he'd been part of [Project Athena](#), an ambitious effort to create a campus-wide distributed computing system for the whole university. Of course, the goal for the project's corporate sponsors was to use MIT as a testbed. Later, they hoped to productize the design and hopefully make a ton of money.



Frank had locked immediately onto the security challenges that such a system would present. He already had privileges to use MIT's gateway to the government-funded Advanced Research Projects Agency Network – the now-famous "[ARPANET](#)" that was the precursor to the Internet. Only select institutions had access to it then, but he connected the dots immediately between where Project Athena and the ARPANET together could eventually go. It hit him between the eyes that this was the start of something big. Linking terminals together around a campus was

today's goal, but the next step would be to connect those networks together all over the world via the telecommunications networks that already existed, using ARPANET technology.

But then what? How would you reliably restrict access to any particular data to one person, and not let it be seen by someone else? MIT was already a hotbed of hackers. If students already went to any lengths to break into restricted sections of university computers just for fun, what would criminals, or enemy countries, not do to break in to classified computers, once someone had linked everything together?

Frank tackled that issue with gusto his senior year, if not discipline. He was a big picture guy, and what a big and exciting picture it was! The idea of wide area networks was brand new, and big ideas were needed to make sense of it all; the details could come later. When Frank graduated, he stayed on at MIT, nominally in a PhD program, but for all practical purposes he lived at a terminal in the Project Athena lab, surviving on coffee and code like so many other young computer engineering students back in the day.

Luckily for Frank, he found a mentor that reined him in enough to keep his ideas from flying off into every direction, and pushed him mercilessly to get most of the good ones down on paper in some sort of coherent order. His mentor was an engineer lent by the sponsoring companies to help oversee the project, and he and Frank hit it off. Often they talked till all hours, the older man channeling Frank's enthusiasm and helping him follow his insights down the right paths.

Frank never completed his doctorate, but he did finish his Masters Thesis – and by anyone's account it was brilliant. He anticipated just about every security challenge that would arise over the next 20 years as the Internet took off. He also suggested at a high level most of the solutions that were later refined and implemented to deal with a massively networked world. Even today, his thesis remained an obligatory foundational reference in just about every new network and Internet security paper written.

His thesis also brought him to the notice of the mysterious keepers of the [MacArthur Fellows Program](#) as well – the unknown judges that every year contacted the select few out of millions who they had decided, “show exceptional merit and promise for continued and enhanced creative work.”

Receiving a MacArthur Fellowship – a “Genius Award,” as everyone called it - had been the high point of Frank's professional career. And as a practical matter, it also brought the end of it, because the payments of \$25,000 every three months for five years gave him the freedom to do whatever he wanted to – including get married.

Unfortunately for Frank, whatever he wanted to do seemed to change every other week. It wasn't long before his work at Project Athena suffered. He no longer listened to his mentor, and people began to notice that his assigned tasks no longer got done. Instead, he would plunge from one question that intrigued him to another, never getting very far with any of them. And his new-found fame and already well-nurtured ego led him to be even more obnoxious than he had been before. Soon, the other guys in the lab were not only annoyed with his failure to meet his commitments, but sick of hearing his latest revelations about security– or any other topic on which he had decided he was now the world's leading expert. And there were many such topics.

Eventually, it was his mentor that took him aside and told him that if he didn't shape up, his days in the lab were numbered. That conversation occurred late one afternoon over a cup of coffee in the corner of a deli in Kendall Square, and Frank didn't take it well. What right did some middle aged, middle-management type with a degree from a state school in the Midwest have to tell a certified Genius anything about anything?

Probably a lot, Frank reflected now regretfully, gazing at his closed laptop. Like the immature idiot he was then, he had cleared his things out of the lab that night and never returned. Eventually, the MacArthur Fellowship money ran out, and with a wife and young daughter, Frank had to get more serious about working. Or at least he should have. His thesis and award carried him from job to job for awhile, but when the bottom fell out of the economy, great resumes were soon a dime a dozen.

And by then, even his resume was getting pretty long in the tooth. Frank had no “continued and enhanced creative work” to show for his five years of subsidized, random behavior. He'd never written another paper, and it was others, and not him, that turned his thesis ideas into real protocols and products. As the jobs got scarce, reference checks counted a whole lot more, and the feedback about Frank always came

back the same: brilliant, arrogant, unfocused, unreliable. Of course, that was more charitable than what his soon-to-be ex-wife was saying. But he hadn't listened – even to her.

Frank usually tried not to think much about the years that followed. The startup that had signed him up as [Chief Technical Officer](#) and the VCs that fired him; the time spent without a job at all; the rut he fell into for years after his wife moved out with his daughter, when he said the hell with everything and everybody: punching the clock in whatever high school, small business or municipal IT department would take him on till he got fired again. Then wait till his unemployment ran out and look for something else he could do in his sleep, until even that became too much to be bothered with.

Through all that time, though, people who really knew him would still seek Frank out, and he maintained a low-key consulting business on the side to help pay the bills. Among the elite in the world of security, Frank still had the reputation of a wizard, able to come up with the kind of amazing insights that would make the most impenetrable problems suddenly transparent. An emailed plea for help describing something dense and dark that had already defied all of the usual tricks would generate a response from Frank an hour or two later, usually beginning, "It strikes me that..." and ending with, "I suggest you try..." Invariably, what Frank suggested worked. But requests for his ongoing assistance went unanswered.

Eventually, it was his daughter Marla that set him back on his feet. One Friday when he was out of work again, Frank picked her up for their weekend together. But something was wrong; something was clearly on her mind. His normally chattering preteen wasn't saying a word. As they walked, she looked down at her feet. Then she looked up as if to ask him a question, only to look down again. After a while, Frank got irritated. "Marla, if there's something you want to ask me, just ask it already!"

But Marla still paused. Then she said, "Dad, you know I'm in a computer class now, don't you? It's something you have to take in eighth grade."

"Yes," he said, surprised. "So?"

"Well," she said, and stopped. He waited, now curious.

"Well," she started again, "Today we took a tour of a big technology company, and we all had to sign in and wear these name tag things. One of the people that worked there gave us a tour, and when she saw my name, she asked if I had a father named Frank, so of course I had to say 'yes.'"

"Uh huh." said Frank, not liking where this was going.

"Well..." Marla paused again, and then the words came rushing out. "She said that she went to school with you and you were the most brilliant person she had ever known and that you'd gotten a big award for being a genius and she wanted to know what you were doing now." Marla stopped abruptly for a long moment. "And I didn't know what to say."

Frank wished this could be all over, and now.

But, Marla, of course, needed an answer. "Dad, the guide said you really used to be somebody."

Frank looked away, and tried to think what to say. And then Marla finished him off

"Dad, she wasn't telling the truth, was she?"

Frank felt as if he couldn't breathe. His daughter thought so little of the father she knew that she needed to know the guide had made a mistake? Or was it that she would be too ashamed of what he had become to be able to deal with the truth? He felt sick.

By then, they were standing in front of the door of his cheap apartment building. The traffic rushed past the garbage cans and trash piled up on the curb, and Frank took it all in. The sights, the smells, his life – they all fit together perfectly, he thought. Still, he couldn't think of a word to say to the young girl beside him.

Finally, Marla put her hand on his arm. "Dad, let's go upstairs," she said softly.

That was ten years ago. The next Monday he sucked it up and called George Lambert, his old mentor, and asked for a job. George was now the head of the IT department at the Library of Congress now, and Frank called him out of the blue to ask if they could get together for coffee.



George had been as gracious as Frank had been uncomfortable. Frank had sent his resume along by email, for what it was worth, and George cut straight to the chase.

"You know I'll need to bring you in at the bottom, Frank. Can you deal with that?"

Frank was prepared. "Sure, sure, George. I'll be fine with that."

George nodded, brows furrowed. Then he changed the topic. "How's that cute God daughter of mine these days? I can't even remember the last time I saw Marla."

"She's great," said Frank, suddenly determined; it helped to remember why he was sitting here. "Just great. We get together every weekend. She's in eighth grade now. She's smart as a whip and gets straight As."

They chatted about family for a few more minutes, and then George looked at his watch. They both stood up, and shook hands.

"I won't let you down," Frank said as he looked George in the eye for the first time.

"I know you won't," his new boss said. But Frank could tell he was only being polite.

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Sitting in his kitchen, Frank reflected that he'd been as good as his word. But not much better, he made himself admit. Yes, he'd rarely missed a day of work, and no one could say he hadn't earned his paycheck. And yes, he'd earned every promotion he'd been given.

But the promotions had been few, and ended long ago. Frank still had tremendous insights into IT architecture, and he remained as interested as ever in new developments in security. His cubicle at the LOC was stacked with articles, and he read voraciously on line. For anyone in the office with a thorny problem, Frank was the go-to guy who could always solve it, provided it was a discrete issue and he could do tackle alone. Sitting at a keyboard and given a problem at the code level to fix, Frank was still The Man – the harder the better, just bring it on. Three hours, eight hours or twenty hours later, he'd still be going at it until an elegant and creative fix was in place.

Management level work, though, was something else again. Every time George gave him a shot at a long term project with a couple of others to supervise, Frank would stumble. Somehow, he could never pull it all together.

Half the time, he'd be up in the clouds thinking big thoughts that went wildly beyond the task at hand, and the rest of the time he'd be down in the weeds, diving down rat holes as one thought after another occurred to him that usually had little to do with the task at hand. The folks he was supposed to be supervising never knew what they would be doing from one day to the next, or what, if anything, Frank did with the work they did complete. Ultimately, George always had to take the project back. Of course, it didn't take long before the big projects stopped coming, and Frank settled into the solitary niche where he stayed.

But Frank wasn't done beating himself up. Admit it, he demanded of himself, you were relieved when the projects stopped coming. You've been marking time for years now, and that's all you'll ever do. What right did you have to think George would throw this project your way?

But this had been a security job, dammit. That (and the drinks he'd had) were what had led him to corner George in the cloakroom the night before.

"I'm sorry, Frank," George had said, slowly wrapping his scarf around his neck. "I thought about letting you know ahead of time, and then didn't. I guess I should have."

"Can the crap, George!" Frank barked. "Rick can't find his own ass with both hands in a well-lit room. What were you thinking?"

George buttoned his overcoat, and reached for his hat. "Of course Rick can't hold a candle to you when it comes to security, Frank. There's nobody I've ever worked with who has the insight and ideas that you do. And everybody knows nobody covers his butt like Rick."

Frank let his breath out with a rush in exasperation as George settled his hat on his head. "So then why..?"

Now George turned and glared at him as he pulled on his gloves.

"Frank, you may know security, but when it comes to understanding people and how to manage them, you haven't got a clue. Yes, Rick is one hell of a weasel. But one thing you can rely on a weasel to do is to watch out for themselves. That means that if you give him a job to do and tell him his job is on the line, by hook or by crook, he'll get it done. And I can't say that about you."

Well, what could Frank say to that? Worse, he'd asked George for an explanation, and now there was nothing to but listen to what Frank already knew was the truth.

"How many chances have I given you over the years, Frank? I can't remember, can you?" Frank looked away.

"You're twice as smart as I am," George continued. "You should have had my job by now! But that's never going to happen unless you grow up and perform. And if you think I'd stick my neck out for you with Chairman Steele grandstanding in the House and looking for the next poor bastard to eviscerate in front of the cameras in a committee meeting, well, you're just delusional. Good night, Frank."

There hadn't been anything Frank could say to that, of course, and he was relieved as George walked away. Furious at himself, George and Rick, in roughly that order, he stalked back to the bar.

Frank decided that was about as much of the night before as he was up to reliving; he'd leave the scene with Rick for his next exercise in psychological self abuse. It had all escalated so stereotypical anyway; Rick's approach to him and his smarmy condescension, his insult in response. Ok, enough.

Frank felt the anger well up again, and with it, a sense of purpose. Screw the jerk; just because Rick got the project, that didn't mean that Frank couldn't still show him up. After all, Frank had been so sure he had the spot in the bag that he'd already started writing up his proposal. No way was Rick going to be able to pull this job off; George would realize that soon enough, and then there'd be no one to turn to but Frank.

Frank snapped open his laptop and punched the keys with fury, rushing through the complicated log in sequence that would take him into the heart of the LOC's security system, where his proposal was archived. Highlighting the file name, he hit the entry key, leaned back, and waited for the proposal to display.

Except it didn't. Frank leaned forward and hit the enter key again. Still nothing. Perhaps his laptop had frozen. But now, when he down-arrowed, his cursor moved.

Then Frank noticed that something on the screen was changing: the background color was beginning to warm up, turning reddish, orange and yellow, as if the sun was rising behind it. Now that was different! Frank watched with growing astonishment as the colors began to shimmer, and then coalesced into shapes that might be flames. Yes, flames indeed – but not like a holiday screen-saver image of a log fire – this was a real barn-burner.

Frank wondered what kind of weird virus he'd picked up, and how. After all, he was an IT security specialist, and if any laptop was protected six ways to Sunday, it was his. So much for whatever he had planned for today; he'd have to wipe his disk and rebuild his system from the ground up.

He was about to shut the laptop down when he noticed that the flames were dying away. Now what? An image seemed to be emerging now from behind the flames as they subsided. Frank leaned forward; the image became a tall building, maybe some sort of lighthouse. Underneath, there was a line of text, but in characters he couldn't read. Truly, this was like no virus he'd ever seen. He reached for his cell phone, and took a picture of the screen just before it suddenly went blank.

Frank was impressed. Whoever had come up with that one certainly had a sense of style. A weird one, but hey, graphic art wasn't the long suit of most hackers.

Frank got a pad of paper and a pen from his desk, and punched up the file directory again, highlighted his proposal, and pressed the Enter key again. This time, he would watch more closely and take notes.

But all that displayed was this message: "File not found."

Frank tried again – no luck. He did a word search on the document title. Nothing. His proposal was gone.

Now, Frank was alarmed. After all, the directory he was staring at was in the innermost sanctum of the Library of Congress computer system, and the LOC was the greatest library in the world. Within its vast holdings were books that could be found nowhere else in the world. Recently, the Library had even begun digitizing materials, and then destroying the physical copies. If someone had been able to delete files in the most protected part of the Library's computer system, what else might be missing?

Frank raced through a random sampling of sensitive directories; hard to tell for sure, but everything seemed intact. He checked the server logs for the Library's indexes, holdings and other user-accessible resources: everything seemed undisturbed, with no meaningful changes in the amount of data stored.

Frank drummed his fingers on the table in the cramped dinette. How to begin figuring this one out? Then he noticed his cellphone, and sent the picture of the screenshot to his laptop. The picture wasn't great, but now he could tell that the letters were Greek. He cropped the image until just the text remained, then ran it through a multiscrypt [OCR](#) program. Finally, he pasted the new version of the same text into a translator window. No luck – all he got was a "cannot translate" message.

Frank's fingers drummed again. He reopened the drop down menu in the translator screen, and on a hunch tried "Ancient Greek." This time, the screen blinked.

Frank looked, and then he blinked, too. But the translation still read the same:

**THANK YOU FOR YOUR
CONTRIBUTION
TO THE ALEXANDRIA PROJECT**

You can Find the Further Adventures of Frank [here](#)

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