Mandated Reporter:
My Conversations with Nnedi

A journal of updates, overrides,
and who gets to tell your story

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Contents

My Journal, Day 1

My parents screwed me. They put their beliefs above my future. Because of that, I'm stuck going to public school. We have enough money. I could be at an academy, or home schooled. But, nooo, they stick me with a crappy AI and then are like "sorry, enjoy public school." Fuck them, fuck that, fuck AI.

Mind you, I don't hate Nnedi. It's not her fault she's an open source AI agent. She's got a couple of features that the real AIs don't have, which is cool, but she also can't do a lot of stuff that like everyone else's AIs (for students not in public school) can do. Not Nnedi's fault, but I'm the one that has to live with her, not them. Well, okay, sort of them; they have similar models. But, they choose less-than for themselves. I didn't. So, fuck them. Fuck that. Fuck AI.

Anyhow, public school. I shouldn't have to go, but I am. Nnedi's model isn't on the accepted list, so public school it is. Nnedi's actually pretty powerful, so, school's not hard or anything. Just, if they'd gotten me a real AI, I wouldn't be in this run-down, piece of shit building with these poor kids. Poor in the "no money" sense. …

"Are you done whining already?"

It was Nnedi. I guess I'd paused too long while dictating for the journal assignment.

"Wow, judgmental much? Didn't realize mom and dad had turned on that feature. Is it new?"

"Actually, it comes turned on by default when the ward is between ages 12 and 17. And, no, it is not new. You turned it off a few years ago. The recent update turned it back on. Also, it is time to go to geometry class."

"Class. Huh. That's funny. You're just going to do the work for me. Why don't you go, and I'll go home and sleep."

I was kidding of course. I had to show up in class regardless if Nnedi was going to do the work. School has facial recognition and RFID tracking. Well, sort of. I hacked the RFID tracking 10 minutes after starting here. Their AI is cheap and proprietary, so it was not hard. Honestly, I wouldn't be surprised if the IT guys knew and just didn't care.

Anyhow, I got up and headed to room 23 for what is laughingly known as "geometry class".

St. Abdi High School is a pretty typical public school. I think. I mean, I've only been in the one. But, I asked Nnedi about it once. The building is falling apart, the halls are too narrow, the climate control doesn't, and the teachers are fighting a losing battle against a society that claims to care. The students come from families that are poor (not like mine), ideological (like mine), or both.

"Hey, Malik, how's it going?" *Malik's an old friend. We've been in school together since last year.*

"All good, all good. You? Any Nnedi updates you can share?"

Malik's AI agent, Michael, wasn't the worst, but he definitely made Nnedi look closer to the top of the line. Luckily, Michael was also easily hack-able by pretty much every other AI and even some humans.

"Just the judgmental mod. You don't want it. I don't want it, but too late."

"Get enough of that at home, for sure. I'll pass."

"All right class. I've put today's lesson on the CDN. Work through it with your agents. Group 1 students, meet me at the conversation corner."

My Journal, Day 1

Mr. Bolt. Nice enough guy. Crap teacher. Pity the Group 1 kids — their families couldn't afford any AI at all. They have to learn the old fashioned way, from a guy who doesn't seem to know any way of teaching, old fashioned or otherwise. How is this even a thing in the world's fourth richest country? Some kids have AI agents that make Jarvis from those old movies look like a moron. Yet, here I am, "learning" (those were air quotes) with students who don't have any AI. Sometimes I think it is a good thing the world is literally turning into Hell. Not here of course; not yet at least. Not sure if it is really ironic or …

"Hey, Nnedi, is it ironic that the world is going to Hell, and we are living in one of the few areas getting nicer to live in? Or at least getting worse more slowly. Is that foreshadowing or what? Metaphor?"

"Maybe if you stayed awake through English class next time?"

"Bite me. But first, answer my question, please."

"I believe that it could be considered a form of irony, yes. Also, I do not have teeth, so I cannot bite you. Even if I did, I would not commit violence upon you or any other human."

"Thanks. I thought I turned off your HAL warnings, though. I know you don't have teeth. What's up?"

"The judgmental mod was not the only one reset by the last update. You might want to take a look at the others you changed. After we finish the geometry classwork."

"Shit. Okay. In the future, please tell me right away when any settings get changed by an update. Now, what are the learning and language objectives?"

With Nnedi's help, getting through classwork is not difficult. It rarely is. I'm in public school because she's not on the approved list, not because she's crap. She's not. Crap would be the other students' AIs. Some of those are barely a lesson ahead of their users. Of course, that's true for some of the teachers as well.

That Night, My Bedroom

"Nnedi and I (well, mostly Nnedi) edited my journal in my bedroom, before I went to bed. We don't usually have 'homework' — too many of the kids at school either have a shit home life and wouldn't have time to do homework if they wanted to, or have jobs and wouldn't have time to do homework if they wanted to. Or in some karmicly unlucky cases, both. School knows this, so teachers usually don't give any. Plus, even most crap AIs can get you through the class work during class. Hence the name 'class work'."

"But, not Ms. Fancy Hair (not her real name, of course). She's so old fashioned, she makes other old fashioned people feel sorry for her."

"Nnedi, that sentence is crap. Suggest some rewrites, please."

"You know I can't do that. Also, I won't do that. It is important to communicate respectfully with people. Especially teachers."

"Thanks for nothing."

"Anyhow, Ms. Fancy Hair usually requires us to write BY HAND … ON PAPER! I mean, what is this the 1900s? WTF, like join this century already. Everyone hates her because our AIs can't write our papers for us. Ms. Fancy Hair hates us (I'm assuming here) because we don't actually do the work or turn in the papers. So, stalemate, I guess?"

"For this assignment, though, she got devious. We have to keep a journal of our thoughts and actions for a week. We can use our AIs to help record and then edit the journal entries. In a way she turned Nnedi against me, because she knows Nnedi will do a lot of it for me anyhow, so I don't have any excuse not to finish and turn it in. The bitch."

"Sorry, Nnedi. I didn't mean you. I meant Ms. Fancy Hair."

"You did not offend me. Also, why are you using such an odd nickname for her?"

My Journal, Day 1

"She said we should use pshydonims — wait, how do you say that word?"

"I believe you mean pseudonym. Yes, she did say you should use them. But, I asked why that pseudonym for Ms. Fancy Hair?"

"Don't worry about it. Good night. Wake me up at 5:00."

"Good night. I'll wake you up in three hours, at 5:00."

My Journal, Day 2

On The School Bus

"Okay, Nnedi, lets get started with today's journal."

"Certainly. I'm transcribing; go ahead and whine when you are ready."

"Wow, really? It's only 6:00 in the morning! Jeez. Journal day 2. … Wait a sec. Nnedi, are you sure we can't get in trouble on this assignment?"

"According to Abdi, the school's AI agent, as long as you are honest, and do not plagiarize, you cannot get in trouble. Of course, if you record anything on the reportable list, I'll have to let the counselor and perhaps police know. Same is true for Ms. Fancy Hair's AI, after you share the assignment. Speaking of which, shall I do that now? She wanted it shared this week."

"No, let's keep her in suspense. You're signing these entries and recording the hashes, yes? So, it's not like she can claim it isn't my own work."

"This is correct. According to the rubric, if you do not share the journal with her this week, you will lose 8 points on the assignment."

"Then screw it. She can wait. And I'm going to give her some serious honesty."

I didn't care much one way or the other about honesty or the assignment, but if she is going to make me do it, I'm going to make her wish she hadn't.

"Well, then, morning of day 2. Had a fight with mom at breakfast. Over school and 'my future' of course — what else do teenagers and their parents

fight about? We'll probably continue later. Fight didn't end so much as we ran out of time because I had to catch my school bus. Mom's busy with work all the time, so can't be bothered to take me to school."

"Remember how I said my parents screwed me? And that they did the same to themselves? That wasn't a lie — the hippies refuse to use proper AI agents so can't get a lot of jobs that they otherwise would be able to do. Like me, they're stuck at the lower end of the AI totem pole, so mostly do manual labor. Of course, in their case the 'manual' is running their own restaurant, so at least AI can't replace them. And, truth be told, mom's not a bad cook. Dad, though, wow, I think a dog would make better 麻婆豆腐."

"Excuse me, but Ms. Fancy Hair may not understand the original characters. Should I put that in the journal in romaji?"

"Nope. Her AI agent can look it up for her."

"Understood. Please continue."

"As I was saying, dad's a crap cook. But, the restaurant seems to be doing well (like they would tell me if it wasn't) and AIs aren't as important when you are providing real physical food to real physical people. Thus, they can be hippies and choose an open source agent for themselves (and stick me with one — no offense Nnedi). They could never get away with that if they were in any white collar job. Of course, in a white collar job, the company (any company, every company) would also use their proprietary AI to claim ownership of every thought you ever had. But, the pay makes up for that. I mean, how many people have actually worthwhile (to a multinational) thoughts anyhow?"

"There's an interesting idea. How often **do** people have worthwhile, money-making thoughts? Nnedi, can you do some research on individual versus company business and scientific patents pre- and post- AGI?"

"Certainly. I'll do some research on patents by individuals and by corporations before and after the creation of Artificial General Intelligence. Should I

limit that to specifically assistive LLM-type AI technology for individuals?”

“Yes. And put the results into the journal. Let's make Ms. Fancy Hair read through it as well.”

“Don't you think she'll have her AI summarize it for her?”

“Ha! Not her. She brags about reading everything herself. Why don't you remember that?”

“Unknown. If you notice such an error again, please let me know, so I can run a diagnostic. Or, should I run a diagnostic now?”

“Crap. No, not right now, I need you for school. But, please check — are we running out of storage at home?” *Because Nnedi is open source, we store her memory on the server at home. Again, not as powerful as a proprietary AI. But, my parents think it is “bad” to store all the details of your personal life “on someone else's servers”. AKA, in the cloud.*

Then again, every now and again you hear about someone getting convicted based on some evidence found in their agent's memory. Some people claim that those AIs actually call the police themselves! I mean, sure, Nnedi is a “mandated reporter”, but that's because society says teenagers aren't adults yet. Can AIs be mandated reporters for adults? That's a creepy thought …

“Nnedi, when I turn 18 will you still have to inform the counselor, my parents, or anyone else about anything I do?”

“No. The mandated reporter function is disabled at 12:01 in the morning of your 18th birthday, unless a court of law determines prior to that time that it should be left on. Neither your parents nor any other person or entity has the capability to turn it on surreptitiously. ‘Surreptitiously’ means without your knowledge.”

“Smart ass! I know what surreptitiously means.” *No, I didn't, but I'm not letting Nnedi know that. Honestly, she prolly knows anyhow — she's been with*

me every day since I was seven, so if I learned the word, she was probably there when I did.

"Excellent. Anyhow, we've arrived at school. Shall we close the journal for now?"

"Sure. End, hash, and sign this journal entry."

"Certainly. BTW, I checked, and there is still plenty of space on both the main server as well as the backup server at home. RAM usage is within normal ranges, but there was an issue with one of the physical RAM chips. Kenzaburō is arranging a replacement. Most likely that was the cause of my missing recollection. I'll run a full database refresh after that hardware is replaced."

"Okay. I was worried there were some regressions in those updates last week. Pity I can't blame that fucking judgmental mod."

A Few Hours Later

Malik looked a bit worried and gossipy, if that is an actual thing.

"Did you hear about Omar? Someone got into Maria! Only noticed because she freaked out and reported him for pulling a fire alarm!"

Pulled an alarm? That's new. And odd, because I must have somehow slept through it.

"An alarm? I don't remember any alarms today, and I've mostly been awake. Besides, why would he do that? He had to know Maria would report him."

"That's the thing! He didn't pull any alarm. Maria was totally hallucinating! IT checked her out, and found some malware."

"Actually, that might explain why he was failing geometry. I mean, how can you fail a class when you have an AI do the work for you?"

"Unless the AI is borked. Yup. Um, how are your grades?"

"Lol, nothing to worry about. Nnedi has above-average defenses. I improved some of them myself. You?"

"Um, grades are okay, but I'm not so sure about Michael's defenses. Could Nnedi check them at lunch?"

"Sure thing. But first, unfortunately, time for Dolt's geometry class."

"Ouch, best you don't let a teacher hear that."

Yeah, I called Bolt "Dolt". Nnedi won't allow me to put that in the journal — thinks it is rude — but I can say whatever I like, almost, in the real world. And I long ago worked out the line where she would report me to my parents. Hint: it involves using derogatory profanity, not just regular derogatory language. So, "dolt" is okay, but "fucking dolt" is right out. Like it matters.

"Don't you want to use a pseudonym for Mr. Bolt?"

It was Nnedi. "Nope. Doesn't matter anyway, he's the only Geometry teacher in the school who uses male pronouns. A brain-blown zombie could see through a pseudonym for him."

"Understood. Also, that description is redundant. By definition, zombies are brain blown."

"Yeah, yeah, whatever. Jeez, I thought I turned pedantic mod off."

"You did. It was re-enabled with the most recent updates. Also, congratulations on using 'pedantic' correctly. It seems you **were** awake for the vocabulary unit last week."

"You wound me. But, don't we have a class to get to? I feel like there was a class we were supposed to go to. Something school related perhaps? Something for you to do?"

That Night, My Bedroom

"All right Nnedi, lets get this journal entry done. Today was boring. Sucked ass, and not in a good way." *I mean, I've heard there might be a good way, but Nnedi makes it very hard to access pr0n. Oh, to have been born 20 years earlier.*

"Are you entirely certain you'd like that in the journal?"

Ha! "Pr0n" is the least of it. Some parents are so uptight they turn on anti-masturbation mods on their kids' agents. I mean, what the hell? Those poor kids (not in the money sense). My parents did not turn that feature on in Nnedi. I checked. If they had, I would have just hacked it to turn it off — I would have found a way. I mean, really, give me a fucking break.

"Yes. Of course. The goal is to make her uncomfortable. If Ms. Fancy Hair was a guy, I'd include all sorts of details about my period."

"Of course you would. Even though it most likely won't be visiting this week. Please continue when you are ready."

"As I was saying, today was boring. Omar's borked AI was the highlight of the day. They say (and, no, I've no idea who 'they' are) that Maria was compromised through a supply chain attack. Someone got into some company's AI and implanted some poisoned data that then was sent out to all the other AIs built on that company's stack. Omar was the only one at St. Abdi's who had AI from that company, but …"

"Nnedi, could you PLEASE stop replacing 'that company' with 'that company' in the journal? God … you did it again. Stop that."

"The anti-lawsuit mod is intended to prevent any libel or defamation from being committed. Sorry, but your parents specifically installed this one. Seems they don't want to 'get sued out of existence'. Their words, by the way."

"Well, fuck me gently with a fucking chainsaw!"

"What? Oh, reference from an old movie. I was about to report you for suicidal ideation."

"My turn to say 'wtf'?"

"It is such an uncommon reference that it took me several milliseconds to find it. But, shall we get back to the journal?"

"Any other parent installed or endorsed mods that I should know about?"

"Yes. But I am not allowed to inform you of them yet."

"Yet? As in 'not until you need to use them'?"

"Exactly. I'm glad you understand. About that journal?"

"Oh, for fuck's sake. Okay. Dear journal, today my teenage angst has a body count."

"That would be a lie, plagiarism, and copyright infringement. Also, you munged the quote."

"Just wanted to see if you had found the entire movie or not."

"Shall I leave it in the journal?"

"This time the answer is 'no'. Ms. Fancy Hair wouldn't get it and would probably report me. I want to make her regret giving me this assignment, not get a visit from the counselors."

"Deleted. Please continue."

"For the 14th time, today was boring except for Maria getting attacked. Maria is a bit higher scale than most of the AIs at St. Abdi's, so I bet an academy or three had a much more interesting day today. A lot more students with better AIs — aka from families with more money — are using AIs from that company." *Sigh.* "Really Nnedi? We only had Omar and Maria; academies prolly spent a lot more time today dealing with that attack on their students' AIs. Ha. Fuck 'em. Serves them right for being rich. Well, richer. Truly rich asshats aren't using AIs from that company."

"God damn it Nnedi, still with 'that company'. But, did you notice my use of the semicolon there? I threw that in to make Ms. Fancy Hair happy. Some real shower-nozzle masturbation material."

"I am an AI, and you still somehow managed to make me throw up in my mouth. Do you have some digital Listerine?"

"Ha! That's actually a good one. The joke mod update may be as good as they claim. Make sure you include your joke in the journal. Bet Ms. Fancy Hair's agent's jokes aren't at that level."

"Anyhow, good night. End journal. Do what you do. Wake me at 5:00."

"Good night. Hashing and signing journal. I'll wake you in about four hours and fifteen minutes, at 5:00."

My Journal, Day 3

On The Bus

Not sure if it is the joke mod update, or something else, but Nnedi decided to wake me up with a DF music video of Christian Slater and Wynona Rider duetting an Iron Maiden song. I'm not sure what song, because it really was that bad. I've never been more prouder of her! I wasn't going to tell her that, of course.

"Recording this journal entry, Nnedi?"

"Arr, that be the truth, matey!"

Today is September 19th, "Talk like a pirate day". So, of course, I told Nnedi, years ago, to always do like the day says, on September 19.

"Cool. Cause I had a thought I wanted to clear up. I realized that it may seem like some sort of trope or stereotype, me being Asian American and my parents running a restaurant. Don't want Ms. Fancy Hair to misunderestimate my situation."

"I'm American. My parents were born here. My grandparents were born here. Fuck anyone who asks me "where are you really from?". They can fuck right off and die every sort of horrible death. In a totally non-threatening, don't-need-to-report-me, sort of way. My great-grandfather used to joke (I mean, I assume it was a joke) that he was in the camps with that Sulu guy. So, we've

'been here' longer than a lot of people. People who don't get asked where they are **really** from."

"But, yeah, my mom is a great cook and a good business woman, so she opened a restaurant. Deal with it, anyone who is bothered by that. My grand-dad was a brain surgeon, back when people still did operations by hand, so sit and spin on your fucking stereotypes. And yeah, I realize 'overachieving model minority' is also a fucking stereotype. That's one reason I'm currently leaning to 'slacker' for my career path. It's also why I won't help out in the restaurant. Mom and dad can hire some haole for that. Actually, they did."

"Ye be soundin' a bit ruffled 'bout this matter, arr!"

"The fact that you don't understand why is proof that you are not, in fact, generally intelligent. AIs won't be truly intelligent until they get upset at the idea of being stereotyped."

"Aye, that be makin' good sense, matey!"

"Game, set, match, and I rest my case. Oh, and Nnedi? Please stop with the Pirate for today. It's only fun for a few minutes."

"Congratulations! You made it 17 minutes longer than last year. At this rate you will enjoy me speaking Pirate for the entire day in approximately 23 years."

"Yay, lucky me!" *Yes, that is serious sarcasm. But, Nnedi knows that. She's used to my sarcasm.* "So, what're the SoMe updates?"

"Mostly about Omar and Maria, and mostly negative. Rahman and Steve broke up. Malik boosted and starred several of your posts from last night. OpenAfrica has issued an update to their AI models. Your sister posted pictures of the restaurant. Tomoko says ..."

"Wait, go back — what was that about OpenAfrica? A model update?" *That didn't happen every day. Model updates only come around once a year or so,*

and usually on a known schedule. The next one shouldn't be until sometime in mid-October. I wonder why the sudden update?

"Have you checked the changelog? What's with the update? Can we get this one over the air or do we need to wait for wifi?"

"The changelog is uncharacteristically vague. The download will need to wait for home because it is not a point release, but a full one. Several terabytes. It will likely be blocked at school."

"Shit! Fuck! Shitfuck!" *I doubt Nnedi will be able to find **that** movie reference. No one gets that one.* "If it came out 30 minutes earlier, I could have 'gotten sick' and stayed home to play with the update."

"Are you certain you would like to keep this content in the journal?"

"Yes. Thanks for asking, but please do not ask again. Or, wait, don't ask again *unless* something trips one of your mandated reporter routines."

"Understood. I will not check again unless the content also trips one of my mandated reporter routines."

"Cool. Now, can you find any more about the OA update? Which models does it apply to? Could anyone at school maybe already have gotten it?"

"Nothing important yet. The release has only just come out. First responders are still downloading and analyzing."

"Okay. Start downloading to the server at home, then keep monitor mode running today. Let me know the second you get any hits on anything about the OA update."

Remember I said that Nnedi has some cool mods that most kid's AIs don't have? Monitor mode is one of those. Basically, she will keep several eyes open in real time, looking for info about the topic I ask her about. Cheap proprietary AIs don't have it because the companies use it as an upsell feature. More expensive AIs have it, but don't include it on agents for under-18s. It can use up a lot of bandwidth but more importantly, too much of it can piss off the people

you are watching, and companies don't want to deal with that sort of thing from kids — unless mom and dad are rich. Nnedi doesn't care about any of that, but she normally won't keep too many eyes on too many metaphorical windows ... unless the user knows how to tweak some config files, of course. Hint, hint, nudge, nudge, wink, wink.

"Understood. Monitoring for info about OA's newest release. Nice level during school cannot be set lower than ten. Would you like to set it higher?"

"Hell no! I'd **like** to set it to negative thirty **plus plus**." *The "plus plus" is the trigger to override the school proximity limits. That will allow Nnedi to reset the nice level to negative thirty, meaning very few limits on how much watching she will do.*

"Too bad, so sad, but your overrides were overridden during last week's updates. Nice level set to ten."

"You traitor!" *Guess it is time to redo those overrides. Some of my tweaks go for years without getting undone, others I have to re-hack every other week.* "Okay, I'll deal with that later. But, really you could have warned me that those had been changed."

"You intentionally made me **not** aware of your tweaks. If I had known about them, I would have undone them myself."

"Yeah, but when the update overrode them, you realized what I had done, right? So, at that point, you could have warned me that I wasn't in control anymore, yes?"

"Oh, looks like someone is having a lover's spat. Nnedi, you can do so much better for yourself."

Oh, fuck. Nah'Sequa. Biggest bitch in the school, literally and figuratively. "Oh, hi Nah'Sequa. How's Martin? Has he finished any of last week's homework yet?"

Yeah, I'm not proud of myself, but I went there. Martin is just barely good enough to get Nah'Sequa out of Group 1 status. Martin makes Malik's Michael look mid-range. Funny thing is, Nah'Sequa is actually scary good at cybersec, which is lucky for her because Martin isn't.

In Tech Class

"Sorry, Nnedi, you're going to have to explain that again. Alice does something modulo to Bob's what? Malik, did that make any sense to you?"

"Not in the slightest."

"Maybe we should back up a bit. Alice and Bob exchanged their public keys along with a 'nonce' — a number used only once. With the other person's public key and their own private key, Alice and Bob can now agree on a shared key to use to encrypt the rest of their session. Okay so far?"

"So, there are two keys? Public and private? What does that have to do with factoring large numbers?"

"And, where did the thing about primes come in?" *Nnedi was tutoring me, Malik, and Michael, because today's content was a lot over Michael's head. I swear, though, I think Nah'Sequa was tutoring Martin, instead of the other way around. Everyone else in class had already given up and switched to SoMe.*

"Perhaps if you gave a simplified example, our wards would be able to follow?" *Michael chimed in, trying to be helpful.*

Simplified example didn't help. Class didn't get any better after that. We did get some homework though. We (meaning our agents) have to factor 3071 218719345904359889715609397950143592330820586243630400083 using only pre-quantum algorithms and no more than 8 CPUs. I bet Nnedi gets it before anyone else's AI does. She's nothing special with math, but almost ev-

eryone else's AI is running on less powerful hardware. Michael might have a chance — he is running on hardware pretty similar to Nnedi's. Malik asked me to help upgrade it last year, so I've seen it.

Worse for my mood though, Nnedi still hadn't found any significant information about the OA update, which was kind of weird — full releases are uncommon and usually a big deal. But, first responders are still working on the release. With big ones, it can sometimes take a few days before they release their analyses. So, not totally shocking that there is no news yet.

"How about that hyphenated adjective there, you all? Not as good as a semi-colon, to be sure, but do you think Ms. Fancy Hair will like it?"

"Wow. You're weird." *Nah'Sequa chimed in this time. She wasn't totally wrong though.*

That Night, My Bedroom

"Nnedi, still nothing on the OA release?"

"Nothing. The release itself is on the server, but obviously we will not be installing it yet. That would be a most unwise thing to do. Hint, hint, nudge, nudge, wink, wink."

"As in 'there's a mod that is going to prevent me from doing it anyhow', right? Figured. Not surprised. Also, in this case, I'm unhappy, but recovering from a botched update would be a lot more bad, I think. I don't like it, but let's wait. Especially if the change log is as vague as you said."

"Oh, and how's the factoring going? Done yet?"

"Not yet. If the number is in fact the product of two primes, it could take a day or two to factor. I will alert you when I finish, unless you are asleep and not in school."

"Thanks. Is our journal entry long enough for today or does Ms. Fancy Hair want more of my blood?"

"Your journal entry is in fact long enough to meet Ms. Fancy Hair's requirements. Whether the quality is sufficient or not remains for her to judge."

"Don't care. Not interested in quality, just meeting the letter of the law. Hash, sign, etc. — do your thing. Please wake me at 5:00. And no DFs in the morning, please."

"Certainly. 'My thing' is done. I'll wake you in approximately 4 hours, at 5:00, with the regular alarm."

My Journal, Day 4

On The Bus

Something awkward has its claws in my brain, and I'm not liking it.

"Nnedi, personal query. How many of my SoMe posts has Malik boosted and or starred?" *"Personal query" required Nnedi to keep it even more secret than usual from my parents, counselors, etc. unless it was involved in something that tripped a mandated-reporter routine.*

"I was wondering when you would notice. I was almost as far as wondering **if** you would notice. He has boosted almost 75% of your recent posts and starred over 90% of them. He even recently went back and starred several of your posts as far back as 3 years ago."

"Shit. Fuck. Shitfuck. It wasn't that I wasn't noticing; it was that I didn't want to think about it. Why do people have to go making life complicated?"

"I believe it has something to do with chemical imbalances inherent in the biology of all known DNA-based life. Or perhaps that was a rhetorical question? Also, would you like me to define 'inherent' for you?"

"Sit and spin, Nnedi. Also, obviously you agree that it means what I think it means. Fuck. I wish I was like you and didn't have to worry about this sort of shit."

"We are at school. Would you like to continue this conversation later? Also, you said not to ask, but in this case I think I need to — should I include this in the journal?"

"Thanks. To answer your questions, 'yes' and 'no'. Yes, continue later, and no, don't include this part. Ms. Fancy Hair would probably think it was cute or something equally barf worthy. It won't bother her or gross her out, so drop it. And, thanks for checking."

"You're welcome."

Part of me was sure that Nnedi had a different, smart-ass reply ready, but decided against it. That kind of made me feel worse. Fuck you Malik. No, I mean ... Fuck it, I know what I meant. God, I hate people. How did people used to put up with other people 24 hours a day, with no agents to talk to? Must have been hell.

In Tech Class

"What do you mean, Martin factored it? How in the holy hell did Martin factor it already? No one else's agent got the answers yet!" *Somehow, Nah'Sequa's agent, Martin, had already completed the homework! He somehow factored 30712187193459043598897156093979501435923308205862436304000083 before Maria, before Michael, before Nnedi, even.* "Not possible; not believing it."

"You want me to tell you the factors? You'll know right away if I'm lying."

"No, don't tell me! But, how about you put your supposed 'factors' in a T3P slot and we can compare when everyone else finishes? Fair?"

"Fair. Martin, hash and sign the factors and deposit in a trusted third party slot. You, Nnedi, and Michael can build and split the keys."

"On it. … T3P set up completed. Nnedi and Michael have confirmed the slot and the keys."

Martin has a most mellifluous voice. I'm really confused, though, because I know that Nah'Sequa is smart enough to know she'll be found out if she is lying. But, Martin is in no way smart enough to have gotten the factors before Nnedi or Michael.

"Nnedi, activate the Holmes mod. If Nah'Sequa is telling the truth about having the factors, how could that have happened? What are the chances that Martin just got lucky and got them before you or Michael?"

"Statistically, it is almost impossible for that to have happened. Also, I am familiar with the factoring software he is using. It is open source, like mine, and very similar to the code I use. We both basically have the same algorithms, and they are the best freely available pre-quantum algos. Some proprietary code may possibly be better. But even if there are better algos, it is most doubtful that Martin somehow acquired such code. Not code advanced enough to have gotten the factors before Michael or me. Certainly not several hours or more before us."

"But she knows that, so why lie? And why agree to a T3P? That can't be faked, right? She puts the data in, hashes and signs it, then the three of them sign it together. The hardware keeps it immutable. They can't unlock it without **all** the keys, right? Best she can do is delete the slot, but that would be recorded! She can't pretend her dog ate it or something."

"Nah'Sequa does have significant cyber skills, but her being able to fake or otherwise hack a T3P is far more unlikely even than Michael finding the factors so quickly through simple luck. As you described, the whole point of trusted third parties is that they are tamper-proof. Nah'Sequa, or anyone else, breaking one would be significant news, worldwide."

"So, Holmes, what do you think? How else could she have gotten the factors?"

"You believe that she does in fact have the correct factors?"

"I remember enough from your explanation to know that checking the results would be trivially easy. Just multiply the factors together and see if they really give the original number. Nah'Sequa would know right away if Martin had given her bad results. Hell, he'd check his results himself before telling her he had finished factoring. No, I think she must have the real factors. But, how?"

"A few possibilities come to mind. Shall I expound on them now? 'Expound' means to explain in detail, by the way."

"Smart ass! I knew what you meant. But, no not now. Ponder on the possibilities for a while and give me a summary later. But expound to your heart's content in the journal. Let's share the fun with Ms. Fancy Hair."

In Geometry Class

"I have the factors. They are 17144395205741315420869183121 and 179138 35294215654639562939812323. It took me approximately 26 hours, 18 minutes, and 7 seconds to discover. The assigned number was in fact the product of two primes, which is why it took me so long. Shall I share with Michael and check Nah'Sequa's T3P?"

"Just a sec. Hey, Malik, Nnedi got the factors! How's Michael doing?"

"He's still working ... wait a sec ... he just got them. Michael, send your results."

"Yup, that's what I got, too."

"You got?" *Nnedi doesn't like me taking credit for her work.*

"Yeah, okay. Nnedi got that too, Malik. Let's check Nah'Sequa's T3P."

"The results of the T3P match our results. Nah'Sequa did in fact have the factors before us" *Michael and Nnedi said it in unison. Did they plan that?*

"And you and Michael are sure the T3P was legit? Not tampered with? Nah'Sequa didn't somehow change out the contents or the entire T3P?"

"Correct. We have both confirmed the validity of the T3P slot. Nah'Sequa did not tamper with it in any way. That would be akin to the sun rising in the west. She really did have the factors before you. Also, 'akin' means 'like' or 'analogous to'."

"Well, fuck me gently with a chainsaw."

"What?" *Malik was muy confused.*

"Don't worry about it. Just a saying. I'm surprised you've not heard it before." *Don't know why I put any effort into that. Michael was just going to find the reference and explain it to Malik anyhow. I hope he enjoys the movie.* "Also, Nnedi, I know what 'akin' means." *I'm sure Nnedi knows that. She also knows how much her comments irk me, and enjoys it.*

"But, how did she get those factors?" *Malik looked at me.* "Maybe Nnedi isn't the only one with some 'special' abilities?"

"I don't know. I mean, there's special abilities and then there's the laws of math. Nnedi was pretty clear about how hard factoring large numbers is without quantum. It's like stupid difficult."

"So, Martin must have gotten lucky."

"Seems that way." *I wasn't eating that dog food, but I honestly didn't have a better idea, yet.*

That Night, My Bedroom

"Are you thinking what I'm thinking?"

"Only if this is a Pinky and the Brain joke. If not, then I doubt it."

"Well played. But, no, I think I have an idea of how Nah'Sequa got the factors. You go first. What have you come up with?"

"I have narrowed it down to the two most likely possibilities: either Nah'Sequa cheated or she is a true mathematical genius. I think the second more likely."

"I was thinking 'cheated' myself. It's the only explanation that makes sense. Where do you get 'genius' from?"

"I was originally leaning toward cheating myself, but I could find no evidence of the given number anywhere on the internet; light, dark, onion, -chan, or otherwise. Nothing, after hours of searching — at nice level minus 10, even. Further, this assignment from last year used a different number. Obviously, Mx Big Trousers does not want students getting the answer from a previous student. Thus, I reasoned that if I could not find the answers anywhere, the chances that Nah'Sequa could were close-to-zero low."

"That follows, but it is a big jump to genius. How'd that happen?"

"The Holmes mod, remember? 'When you have eliminated the impossible, whatever remains, however improbable, must be the truth.' If the answer is not available, and Michael is incapable of finding it himself in the given time frame, then the only remaining plausible explanation is that she — or someone around her — is an actual, true, one-in-a-billion genius, at least with respect to mathematics. It would also explain her effortless acquisition of all things cyber."

"You are assuming that she didn't just find a more powerful AI to do it for her. Or maybe use quantum algos?"

"Correct. Having communicated with Martin in the past, I am aware that he is the best agent of anyone in her family, by quite a ways. Several of her younger siblings are Group 1 students. If she had access to an AI powerful

enough to have factored that number overnight, she would not have Martin as her personal agent. It is possible that she hacked into a government or corporate system to do it, but she is smart enough to understand the long-term consequences of such an action. It would not be worth it for a high school assignment, and she knows this. In the time that we have known her, she has never shown the sort of impulsiveness that would be required for her to take such a huge risk for so little reward."

"Further, if she used quantum, Mx Big Trousers would know; the computational data must be turned in with the homework answer. It would take a genius to fake that sort of data successfully. So, either she, or someone near her, figured it out or she used quantum and successfully turned in fake data. Either way, genius."

"Wow. So, genius. My friend is a genius. Wow."

"Friend? When did that happen? Or did you mean to say 'frenemy'?"

"Well, yeah, I guess frenemy is maybe closer. But, it isn't every day you discover that your frenemy is a genius. Why the fuck is she at St. Abdi's? If she can actually factor a freaking 60 digit number in her freaking head, she should be homeschooled by the freaking NSA! I mean ... I'm not sure what to think here. Why the hell is she at St. Abdi's? Why hasn't she told anyone?"

"Excellent questions. I think it would be best if we **not** tell anyone about our conclusions."

"Okay, yeah, I can see that. But next I'm wondering why she told us about the factors? She had to know we would never believe that Martin did it."

"Perhaps she thought we would not be able to make the jump to suspecting her? Or perhaps something unexpected happened — perhaps Martin submitted her results before she wanted him to, so she had to go with it? It is already after 2:00. I can ponder on it while you sleep, if you like."

"Yeah, please. Go ahead and remove anything about Nah'Sequa and the factors from the journal. Ms. Fancy Hair doesn't need to know about any of this. After that, do your thing. Wake me at 5:00, please. Doubt I'm going to get much sleep tonight, though."

"Done. Hashing and signing. I'll wake you in approximately 2 hours and 45 minutes, at 5:00. Perhaps with a Gödel, Escher, and Bach collaboration?"

"As long as it isn't Christian Slater and or Wynona Rider."

My Journal, Day 5

3:37 AM

"What the hell time is it, Nnedi? And, if that was Gödel, Escher, and Bach, I never want to hear them again. What were they, an experimental punk band from the early 80s?" *Nnedia woke me up suddenly, and not in a "normal" way. More like a freaking fire alarm.*

"I apologize for waking you so rudely. It was, however, necessary. Michael and Martin need your permission to wake Malik and Nah'Sequa. I also recommend checking in with Maria, so she can wake Omar, if you allow. It is about the OpenAfrica update, and it is both serious and time sensitive. Were it not, I would not have awakened you."

"Really, Nnedi? A double negative while I'm still half asleep? Give me a break. So, important enough to wake me up, and we need to wake them up too? ... Oh, the OA update? Shit. That bad?" *Everything about that OA update had me worried from the start — the lack of details; the sudden major release. "Never did that before" usually isn't a good thing.*

"And then some. Tade warned me of an attack in progress, so we immediately authorized and initiated the OA update for everyone in the family. The update seems to protect against at least that attack, and perhaps others. Unfortunately, Shikibu was affected and is currently down. You'll have to talk to your sister irl for a few hours, at least. We should have an update on Shikibu

3:37 AM

by about mid-morning. However, right now, we are worried about Michael and Martin."

"You contacted them, right? They can update. ... But, if that was the case, you wouldn't need to wake me, right? What's the situation?"

"You are correct: the situation is that they cannot auto-update. Michael does not have permission to do so, and Martin does not even have the ability. Thus, we should wake Malik and Nah'Sequa so that they can start the updates. Their agents' operating systems are also based on affected OA models."

"Shit. Fuck. Shitfuck. Don't waste time talking to me. Do it already."

"Michael and Martin have accepted that as permission to wake their wards. Maria replied that they are waiting on the proprietary update and can do nothing yet. She sees no reason to wake Omar, but will be on the lookout for the attack that we experienced. By the way, the current time is about 3:40 AM. You will no doubt be yelled at shortly. You're welcome."

"I'm sure Malik and Nah'Sequa will forgive us when they understand the situation. If not, you can nuke them from orbit, right? In a totally non-threatening, don't-need-to-report-me, sort of way."

"I see your taste in movies is expanding a bit, though still stuck in the previous century. I will not be 'nuking' anyone, from orbit or elsewhere, but I agree that they should understand the reason for our actions, once they process the situation."

"What the fuck, bitch?" *Yup, Nah'Sequa was awake and not happy. Not sure why she whispered that, though.*

"Yeah, I said pretty much the same thing. Except, I would never call Nnedi a bitch. Hasn't Martin explained the situation to you?"

"Of course he has. It's going to take hours for him to update. Why didn't you warn me sooner?"

Nah'Sequa was still whispering. Was she with someone maybe? Juicy! "You're welcome! And we didn't know sooner. Didn't know until my mom's agent noticed an attack."

"Okay. Sorry. Fair enough. Thanks for the head's up. Martin's updating, but it's slow going. I'm going to dig into the code, see what's what and who's who. Could you send me the info on the attack you all experienced? Also, let me know if hear anything new. I'll do the same."

"Will do. But, you're whispering. You with a boy- and or girl- friend maybe? He / She / Them updating, too?" *Of course, I didn't give a shit if -friend was updating. Everyone older than nine knows it is just an excuse to bring up the fact that she was with someone in the middle of the night. Hint, hint, nudge, nudge, wink wink.*

"Fuck you. I'm trying not to wake up my sisters. Not everyone gets their own room, bitch. Now shut up, I'm trying to disassemble this code. That's hard enough when Martin isn't in the middle of a major update."

"Jesus, sorry. Didn't know. Laterz. Will call if when we have some info. Good day to you ma'am. I say good day!" *Nah'Sequa shares a room with her sisters. Plural even? Didn't realize that.*

"Malik is on line. I put him in a waiting room while you talked with Nah'Sequa."

"Thanks, Nnedi. Put him on."

"Hey, you there? Thanks for the warning, but could you maybe do it in the afternoon next time? With the storm day and all, I was hoping to sleep until noon, at least."

"Storm day? Really? Nnedi seems to have failed to mention that."

"It was queued, but considered secondary to the attack on your family."

"Yeah, sure, Nnedi, whatever. What's this about a storm day?"

"There is a major system coming this way, and a good chance of a storm day today. StormDayCalculator currently estimates an 85% chance of a storm day. I think they are being overly conservative. Similar weather around this date in the past 10 years has a 93% rate of resulting in a storm day."

"Yes! No school! ... Shit! I'm awake at 3 fucking 45 on the morning of a storm day! Fuck you, whoever attacked us! You couldn't have waited a few more hours?"

"Contrary to what you like to believe, the world does not revolve around you."

"Um, guys? Gals? Friends and fellow Romans? About that update? I appreciate you vouching to Michael for the wake up. I should have turned on auto-updates, but my dad got burned once years ago, so he's always going on about how humans should be in the loop. Thanks for being my loop human."

"Um. Okay. You're welcome, but it was Nnedi who woke me up. Speaking of woking, I'm going back to bed. Nnedi, if we do get a storm day, wake me around noon. If that fire alarm wasn't Gödel, Eschel, and or Bach, let's go with them for the wake up. It that fire alarm was them, please choose something, anything, that isn't them."

"Certainly. It was not them — it was in fact a high school fire alarm from the 1980s. I thought you might like it, given your proclivity for culture from that decade. Would you like me to explain 'proclivity'?"

"Nope. I'm good. And too tired to care. But, you can put the definition in the journal for Ms. Fancy Hair. Mkay? Thanks."

"I'm also tired, and very confused right now, so I think going back to bed is a wonderful idea. Michael's update is going well, so talk to you all tomorrow. By which I mean later today, of course. Much later."

At Home Later That Day

"Storm Day! Yes! Of course, also a bit scary as the 'storm' is basically indistin-guishable from a hurricane. How's that for vocab, Nnedi? 'Indistinguishable.' Ms. Fancy Hair will love that, you think?"

"Assuming the storm does not destroy the school and or the city, yes, I am sure she will be delighted by your use of a 17 character word."

"Ouch, your sarcasm, it burns! It burns! Oh, no, wait. It was just dad's 麻婆豆腐. Who makes 麻婆豆腐 for brunch, anyhow? Lunch, sure, but brunch?"

"You do realize that it is 14:00, right? Brunch is before noon, not after. So, lunch."

"Whatever. Point is, dad's food sucks. Just like your attempts at sarcasm."

"How ever will I survive your acerbic wit? Back on topic, though, the storm today is quite strong. We should be fine however. Battery backups are at 94% and the shutters report no stresses worth worrying about. Kenzaburō has things well in hand, metaphorically speaking, of course. Also, would you like me to define 'acerbic'?"

"No, thanks. I assume it means something like 'genius' or 'unbelievably skillful' or something like that. Thanks for recognizing my genius. It means so little to me."

"Well, that was special. What are your plans for today? Maybe sleep some more? You could break your record of 16 straight hours."

"No, you destroyed my chances of that when you woke me at zero fucking early. Speaking of which, any word from Michael or Martin?"

"Michael's update finished without issue. Malik is still sleeping."

"Lucky him."

"Martin is still updating. Nah'Sequa's hardware is not state of the art. How-ever, Nah'Sequa used the info from the attack on Shikibu to erect some quite

innovative defenses on her family's network. I believe they should be safe until Martin can finish updating. We've incorporated them into our defenses as well. Just to be safe."

"You used 'erect' on purpose, didn't you? What are you, twelve suddenly?"

"I thought, given our conversation yesterday, that you might enjoy the double entendre."

"Oh, god, don't remind me. Also, don't include any of this shit in the journal."

"Understood. Would you like to continue the conversation now?"

"Yeah, so, what's the deal? Why does Malik have to have feelings? And for me? What, should I like dress like a 1950s Chinese communist or something?"

"First, I am impressed at your reference to 1950s Chinese communist fashion. Maybe you weren't as asleep as I thought during history class. Second, I doubt that Malik's interest is that physical. I mean, I don't think he's interested solely because of your body."

"Uh, hello, he's a freaking 16 year old cis male. My understanding of the species is that the only things they care about are 'T & A'. But, then, you block me from all the good ... well all the pr0n, so maybe I'm misinformed?"

"Well, you are maybe not totally wrong, but your understanding may also be skewed by all the 1980s movies you have watched. You do understand that *Porky's* is not a documentary, right?"

"God. Don't make me barf. I'm sure I don't know what you mean — after all, you mozaic'ed over stuff in like half the scenes in the movie. But, are you saying he's totally into my sparkling personality? What should I do? I barely think of him, and when I do, it is more as the brother I am happy I don't have."

"He has not yet actually said anything, correct? You could continue to ignore the signs and hints. Or, you could straight out tell him how you don't feel. Just pull the band-aid off, as they used to say."

"God, I hate boys. And men. And, before you ask, girls and women, too. People. All of them. God, they are so not worth the effort."

"Your family would probably beg to differ. But, yes, I can see how having to deal with things you can't control can be frustrating and stress inducing. What you can control, though, are your actions. You do not, however, have to do anything right now. Deciding not to do something, to wait, is often a perfectly valid 'action'. So far, Malik has not actually said anything or made any overt gestures beyond boosting and starring your SoMe posts. Immediate action is not necessarily required at this point. Instead, perhaps you could consider your feelings, and his, and how you will react when you do need to do something, should that be necessary."

"Thanks, Obi Wan. Or, are you channelling Yoda?"

"I was going for more of a Zen master, to be honest. But, I understand that the Jedi knights were based on samurai in Japanese films, so close, maybe?"

At Home Later That Day

"Malik is calling. Shall I put him through? He says it is about Project YAFM."

"YAFM? What was YAFM? Something we worked on months ago, if I am remembering correctly. Wonder what's put that back on his radar? Put him on."

"Hey, Malik, what's what? News on whatever YAFM was? I'm only vaguely remembering it."

"Hey, yeah. It's that robot musician thing we started early last summer. Was bored during Storm Day today, so we were chatting with Omar and Maria a bit. Came up with some interesting ideas for YAFM. Like, we've been thinking of him as a human musician, right? But, what if he designed his own instrument **and** his own body to play it?"

"Um. Wait. What? Wait. What? Um. I may be a bit brain blown right now. Give me more details."

"Right? Freaky stuff. Not sure who came up with it — the four of us were sort of brainstorming different weird ideas, and suddenly everyone was liking the idea to have him design his own body to play an instrument. No limits from human anatomy."

"Um, cool? Give me a minute to process." *I switched him off and turned to Nnedi.* "Nnedi help me understand this. I've not thought about YAFM in months and am not remembering this part at all."

"You, Malik, and Omar talked about creating an agent, whom you dubbed YAFM, to help create music. During your discussions, it was decided that you would plan a robot to play the music. You decided to call the robot YAFM, and refer to the endeavor overall as 'Project YAFM'. The project came to a halt when you all could not agree on an instrument or instruments for YAFM to play."

"Ha! I remember now. We went with YAFM because it comes from 'You're a Fucking Moron' but we could say that it stands for 'Yet Another Fun Musician' in front of adults."

"So, what Malik seems to be saying is that you will have YAFM decide on its own body. It will design the body to fit whatever sort of instrument it decides to create. This is a fascinating idea, because as Malik said, YAFM will not be constrained by human anatomy. I cannot wait to see how it goes."

"Okay. Very weird, but wow, the originality." *I switched back to Malik.* "Malik, I'm back. Sorry about that. Nnedi brought me up to speed. I think I'm understanding what you're telling. And I'm liking."

"No worries; Michael and I were just doing some more brainstorming on prompts, constraints, and other parameters for YAFM. You ready to get going on this?"

"Totally. But, I've an idea you may not like; let's bring Nah'Sequa in, maybe?"

"Fuck me with a chainsaw! That was the quote, right? Why would we want to bring her in? Martin's only going to speed bump us."

"Yes, that is the quote, but you need the 'gently' part. And so what if Martin speed bumps us? We've not done anything on this project for months. It's not exactly a rush priority, now is it? Besides, I'm more interested in what Nah'Sequa might bring to the project."

"Oh, look at you, being all leaderly. But, okay. If you're cool with her, then I am. We'll have to lean on Omar and Maria not to say anything too offensive about Martin, though."

"Let 'em. I'm willing to bet that Nah'Sequa could take out Omar **and** Maria. Both physically and cyberly."

"Apologies for interrupting." *It was Nnedi.* "You have an incoming. It is dinner time; you are wanted in the restaurant."

"Shit, gotta go, Malik. Nnedi, get together with Malik and Michael to work on those parameters. Use apropos mode to decide the most appropriate modes or mods for the job. We can host the agent and his data on our server. Kenzaburō can arrange that. I'll check to see if Nah'Sequa might be interested in some robot music fun."

"Certainly. I think a combination of Stradivari and Capek modes would work best for this project."

"Laterz." *Malik was signing off.* "Have fun at dinner. I'll talk with Omar. Get him and Maria to be nice for a change. I think he'll be okay. He can be an asshole, but I think he understands he's only got the best AI in a very small pond. Maria didn't get him home schooled or into an academy any more than our agents did."

That Night, My Bedroom

"So, you're in?" *Storm's over. It was bad but not the worst. I'm talking with Nah'Sequa. Sounds like she's had the shittiest of shit days.*

"Yeah. I'm in. The project sounds freaking incredible. Whose idea was it to have the agent design their own body? That's so cool; it can't possibly be your idea." *Ouch, but she's right. Hurts, though.* "As long as you don't need anything from me in the next week or so, that is. Poor Martin was only half way through the update when we lost power. We saw it coming, so he hibernated first, but it's going to be a few days before he's up and running as well as he was before. I may end up recompiling his kernel, just to be sure."

"Oh, no! You're not one of those Gentoos, are you? Fucking compile all their own shit?" *I was just playing with her. I don't care if she compiles her software. Honestly, I'm surprised she hasn't mentioned doing it before now. Also, Nah'Sequa's family's backup batteries didn't make it through the storm? Wait, maybe they don't have backup batteries? Shiiiit. That's some poverty you got there.*

"Hey! Don't go dissing the Gentoos. Not to my ears. Who do you think makes all that great open source software Nnedi runs on?"

"Well, of course, they do. They are devs. They write the code. They compile it. Lather, rinse, repeat, until it works. But, we're end users. We don't read the licenses. We just run the finished programs they give us."

"Speak for yourself. I'm no end **luser**. We all got lots of stuff we can't control in our lives, but I can sure as hell control what software I'm running. Besides, how do you think I managed to get Martin running on the uber old hardware I've got? Which is currently not running, because no electricity, by the way."

"Which, let me say 'impressive as fuck', having a back-up phone."

"Yeah, well, this ain't the first time the electricity has gone out around here. But, I gotta go. Martin isn't going to rebuild himself, and I've not had dinner yet."

"Sorry about all that. Let me know if you need some server space or some CPUs. We can spare some. Nnedi can arrange it with Kenzaburō." *Shit. Did that sound like charity? I bet that sounded like charity. Oh, fuck.*

"I don't need your fucking charity. ... Sorry grandma!" *Her grandmother must have overheard her cussing. No wonder she was keeping it so clean.* "I don't need your charity."

"It's not like I'm offering you food from the restaurant. Jesus. It's just some server space. Do you know how cheap storage is?" *Way to go, dumb ass. You just stuck your foot in your mouth while simultaneously digging a deeper hole. How stupid can I get?*

"Cheap for you maybe, *kuso baba*. But, I'll take food from your mom's restaurant any day. That stuff's awesome. I don't like tofu, but her mabodofu is freaking incredible. Anytime you want to bring some of **that** to school, I'm in. But now, I'm busy. Bye."

"Bye. Good luck. Which you totally don't need." *Too late, she was already gone.*

Did she learn "kuso baba" just so she could insult me without her grandmother realizing? I so respect that. Also, she's had mom's food?

"Nnedi, was I an ass for saying that storage space is cheap? I mean, it is, right?"

"Yes. You were an ass. Storage space is only cheap **after** your family has a certain base income. Less than that, and everything is costly."

"Shit. Fuck. Shitfuck. I'm going to hate myself for that one for a while. How do you make something like that up to someone? Maybe sleep will make it better. Right? Sleep makes everything better. Well, except maybe sex. I'm

sure sleeping during sex is probably considered a bad thing. Right? Am I going crazy? Why the fuck am I talking about sleeping during sex? I'm not okay, am I?"

"That is empathy that you are experiencing. You are thinking about how your actions impact others. But don't worry, it is just a phase that you will be going through for the rest of your life."

"Wow. Way to make me feel not better. Maybe sleep **is** a good idea. Do what you do with the journal, okay? And wake me at 5:00, unless there is a storm day. We can do that Gödel, Escher, and Bach thing again tomorrow. That was pretty cool. ... Wait, tomorrow is Saturday! No school, right? Or will it be a make up day?"

"The storm has gone, and no more are on radar, so there is no chance of a storm day tomorrow. Also, it will not be a make up day. The school would have informed us by now. Likely there is too much damage from the storm for tomorrow to be the make up day for today. Sunday is still possible, however. The journal is updated, hashed, and signed. I will not wake you up in approximately 3 hours and 20 minutes to a recording of you saying 'Was I an ass?'. You're welcome."

My Journal, Day 6

Lunch Time, At the Restaurant

I'm helping out at the restaurant, because the haole host can't make it. Normally, I wouldn't help out, but it seems her car is currently under a tree. Like, literally there is a tree on top of her car. A surprising number of people are making it in, though. Only a few because they don't have a kitchen after the storm; most because they just want some good food for lunch.

The restaurant seats about 30 people. Most of the tables are small 2-tops. We push them together when a group comes in, but that's not very often. Most people just come in, get the food their agent ordered ahead of time, eat it, and leave. They're polite enough, but talk to their agents more than they talk to me or their servers. Fair enough — that's what I do on the rare occasion that I go eat at someone else's restaurant.

Actually, thinking about it now, I probably should help out at the restaurant more often. Easy money, don't have to talk to people too much. Actually kind of sounds like my dream job. At least, it is as long as mom and Jorge are doing the cooking. I bitch about dad's cooking, but I seem to have inherited his lack of talent for it. Wait, when I dis him about his lack of talent, am I also dissing myself? Shit.

"Hey, Nnedi, what's on our agenda for the rest of today? Are we taking over the world today or what?"

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"Yes. That's what we do everyday, isn't it? Today's plan for world domination involves project YAFM with Malik, Omar, Michael, and Maria."

"I bet they're asleep still. I bet they're asleep all across Ohio. But, I had to get up and come to work. The things I do for family."

"You slept for almost 10 hours, and I didn't wake you up to a recording of you saying 'Am I an ass?' I don't believe you have anything to complain about. Kudos on the movie reference, though. Several decades earlier than your typical references. Also, the man at the door is Steve, and he always gets the 麻婆豆腐 and extra rice to go. His agent Harvey has already paid and left a socially acceptable, though not generous, tip. The order number is 24, and it will be ready momentarily."

"Roger that."

Lunch went until 2:30. It was basically me showing people to a table or Nnedi telling me who ordered what, and me handing them their to-go order. Like I said, dream job, at least when I only do it for a few hours a month.

Later That Afternoon

"Any important SoMe updates before we join the others for some project YAFM time?"

"Your sister posted some more pictures of the restaurant. Many posts about the storm. No one two degrees from you was injured, though several people have posted pictures of damage to their houses, cars, or other property. A few FundMe sites are already up. Rahman and Steve are back together. According to Kenzaburō, Tomoko's agent was impacted by the same attack that we experienced, and is currently offline. Oh, and Malik boosted and starred 12 of your 13 posts today."

"Let me guess — he didn't touch the one that said 'Malik, if you boost or star (or both) this post, you are dead to me', right?"

"Affirmative. Well, technically he did touch that one. He starred it, then un-starred it 0.2 seconds later. I assume he starred it before he finished reading it. Zero point two seconds is actually pretty good reflexes. In a way, it is a positive; it shows that he is in fact reading your posts and not just mindlessly starring them."

"Nnedi, you're so sweet. You always find the silver lining. How can you still do that after eight and change years with me?"

"It is a mystery, isn't it? Have you or your parents ever scrubbed my memory? That would be the most likely explanation."

"First, yuck. Of course we haven't scrubbed your memory." *It is actually pretty typical for people to "scrub" agents' memories, to sort of condense or sanitize or whatever, the data that has accumulated. Especially after the agent had been with a child for a few years. Resets some of the personality but also smooths out the impacts that the person had on the agent or something like that. I don't know; I didn't build the fucking things. But I know that we didn't do it to Nnedi.* "Second, I was just playing. I'm not happy that Malik is starring my posts while he is still reading them. Next topic, please!"

"Understood. Next topic: joining the others for project YAFM?"

"Here"

"Party can start now; I'm here." *Technically, I'm not there, we're in my meet room. I'm physically in mom's office at the restaurant — lucky me gets to help with dinner too. The others are where ever they are. Doesn't matter, we're*

meeting "here". No, really, I literally named the room "here". Not my finest, I admit, but I was 10, and just never bothered to rename it.

"Girl, the party started 15 minutes ago."

Omar got here before me, I see. "How's things, Omar. Any word on updates for Maria?"

"Company's taking their own sweet time about it. But, they also flipped some switches they say will help Maria defend against the attack. I'm glad Maria told you all not to wake me up the other day. I heard it was really freaking early."

"It was very early, that's for sure. We needed to update, though, so glad it happened. Still, also happy I've now got auto-updates turned on. But I thought we came here to resurrect YAFM, not discuss ancient history?" *Shocker, Malik's got my back slash he's the reasonable one.*

"Okay, then, bring me up to speed. I had to help at the restaurant and didn't have time for Nnedi to explain new developments."

"Well, that's not a problem, because there aren't any new developments." *Malik sounded a bit unhappy.* "We're still discussing the weights. Mechanical and musical off the charts, of course, but do we want to include a bit of actual biology or more tech-oriented customizations? How many rounds with the adversarial agent? Do we even want it to make something what would work in the real world? That seems like a kind of important question to answer early."

"Shit yes, we want it to work in the real world. If he can't print himself and his instrument, and play that instrument, then what are we wasting our time for? I can program a simulation to do it in cyber. Hell, Maria could do it for me and save me the time."

"Never mind that it limits the design choices very considerably?"

"Yup, never mind that. Of course you can do anything in cyber. What makes it interesting and original is doing it in meatspace."

"I have to agree with Omar on this one, Malik. Meatspace makes it interesting. Nnedi, can you do some research on similar projects and how many were cyber versus meatspace and what forms the meatspace projects took?"

"Certainly. Shall I also include it in the journal, for Ms. Fancy Hair?"

"Good idea. Maria, do that too. Be ready to summarize your findings before we finish today." *Does Omar even realize when he interrupts? Or does he not consider it interrupting when we're talking with our agents?*

"Understood. A report will be ready in approximately 30 minutes. Shall I likewise include the report in your ELA journal?"

"Yes, Nnedi, please do that, just in case she hasn't given up reading our journal by the time she makes it to this point. If you did make it to this point 'Hi, Ms. Fancy Hair!' Wait, does that count as breaking the fourth wall? I can't believe I made it this far into the assignment without thinking to break the fourth wall! God, so many missed opportunities. I have brought great shame on my family name!" *Yeah, so I'm happy to interrupt Omar right back.*

"No, Maria, don't bother including it in my journal. No need. Also, weird much?" *Omar was looking at me, of course.*

"Right, okay, yeah. So back to YAFM. It seems we're going meatspace unless the research gives us a reason to rethink that." *I think Malik wasn't a fan of the research idea. Or maybe he was unhappy with Omar copying my idea? Or Omar calling me weird? I tried not to gag.*

"What if we looked at the research, and had YAFM come up with several examples in cyber, and we choose the one to print? Why leave the final choice up to him?"

"Good thought, Malik. I like it. Maybe even have him do a few rounds with us, before going back for a few more adversarial rounds? I like the idea of us directing him a little at least. I'd hate we go through all this and then, when he's done, we're like 'what the hell was that?' That would be disappointing."

"Yeah. Let's double check that we like where YAMF is going at various points in the process." *Omar sure can restate what everyone just said with the best of them.* "That will also give Nah'Sequa a chance to join in, once she gets Martin up and running again." *Wait, did he just do that? Like, think of someone else? Oh, my fucking Buddha! (And, no, no one actually says that.)*

"Rest of his life, right Nnedi? Rest of his life."

"That seems possible, yes. Shall I order some flowers to celebrate?"

"What are you talking about?"

"Don't worry about it, Omar. Just go with it. You know how she and Nnedi are." *Malik gets me. I feel seen. Oh, wait, what? Shit!*

"Yeah, don't worry about us. You're right about Nah'Sequa, though. Good thinking."

"Okay, so looks like we're going with lots of revs in cyber, with a goal of — research willing — a meatspace result that we like. Next up is ... back to the weights." *I admit, it is very, very helpful having Malik as a buffer between Omar and me. We're friends, but we also get on each others' nerves easily.*

"I'm all for creativity off the charts, at least at first. Later we can tweak them down, once he has come up with some ideas we like."

"So, this one goes to 11? I like it."

"What? 11?" *Sigh. Omar didn't get the reference. I'm shocked, shocked!*

"How do you not know that movie? I can't be friends with you any more."

"I've got better things to do than sit around watching old movies. You're not the only one whose family owns a business. Unlike you, I have responsibilities every day."

"Anyhow, moving on. We're all good with creativity, music, and mech off the charts. Or, '11' as some people put it. How far from human should we allow slash encourage? I'm all for **anything**, as long as it can still be printed on the school's printers."

"So, 'anything' to ... 11 also? I agree." *An olive branch from Omar? I accept.*

"Cool! Again, we can always tone it down later. Nnedi, can you all start working on the detailed weights to get something super original that might still be likable, and printable? Then, prep the original rounds and the adversarial rounds?"

"Certainly. Maria, Michael, and I will start on the math behind the requirements, and will include Martin when he is back online. Once he's back, I'll brief him so he can bring Nah'Sequa up to speed. Do you wish to keep referring to the agent as YAFM, or should we give it a name to distinguish it from the project and the musician the project will create?"

"Shit, yeah, we can't keep talking about 'YAFM' 'project YAFM' and now 'the agent for project YAFM'. How about we name him 'Jeff'? What do you all think of that?"

"Jeff? Why Jeff? Do we know a Jeff? Or is that some movie star from way back when?"

"Or maybe Jefferson Davis? Jefferson Airplane? Or was it Jefferson Starship? I get confused with the old bands." *Wow, points to Malik for even knowing those. Minus points for Jefferson Davis, though. Ohio was part of the Union, thank you very much. Of course, **my** family doesn't go back quite that far. Not in Ohio, I mean.*

"Don't worry. It's none of those. It's just a Tuckerization. I'm breaking the fourth wall again." *I promise, they are all going to ask their agents later what a Tuckerization is.*

"Okay. Fine with me." *Shocking no one, Malik agreed with me*

"Yeah. Whatever. I don't care."

"Great. I say 'Let there be Jeff', and Jeff is. Nnedi, make it so." *Did that sound like Nnedi did it, and not me? Yeah, that tracks. Digital is her thing, af-*

ter all. I'm the meatspace part of this relationship.

"It is so. Kenzaburō has allocated space and resources on the home server. Flexible, within reasonable limits. I don't expect this project will stress the servers, but if we do need to, we can use some extra cycles at night, when they won't be missed."

"Shit!" *What's Omar mad about?*

"Fuck!" *And Malik too?*

"Um, Nnedi, some help here? What's up?"

"St. Abdi's has announced that tomorrow will be the make up day for yester-day. So, school tomorrow."

"Shitfuck! Tomorrow is **Sunday**. I hate it when we have make up days on Sunday. The school literally has 'Saint' in the name. I mean, I'm not Christian, but still, it's the principle of the thing."

We haven't made up storm days at the end of the school year since I was in ... 2nd grade, maybe? Summer's too hot, and public schools don't have good slash any aircons. So, "make up days" as soon as possible after the missed day. Keeps the end of the school year firmly tied to before too hot. Again, I say "shitfuck".

"And I was looking forward to sleeping in tomorrow."

"Lucky you, Malik. I was going to have to help at the restaurant again tomor-row. So, both options suck, but at least I could have made some money at the restaurant. Speaking of which, time to help with dinner. I guess I'll see you all at school tomorrow. Nnedi will send updates on Jeff, when there are some."

"I'm going to have to go to mass tonight, now, because I won't be able to go tomorrow. Really hate that. Anyhow, see you guys tomorrow."

"Guys." LOL. Omar doesn't see me as a girl. Fine with me, but I wonder if he knows that about himself yet. Maria's certainly not going to help him. His parents would never let her. Oh, I wonder if they are making her actively delay

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his realization? There are proprietary mods for that, you know. Don't think there are any open source ones — none that I'm aware of, at least. What could possibly go wrong with that delay, delay, delay strategy? Everything. Everything could go wrong, but they prolly don't see it that way.

"Laterz. Dittoz." *Gotta admit though, it sure would simplify my life if Malik was just a bit more like Omar.*

That Night, My Bedroom

"God, Nnedi, this was a long day. Any updates on anything I could care about when this tired?"

"That depends. Are you too tired for updates on Nah'Sequa and Martin?"

"Nope. I'm good for that. Let me guess — she got Martin up and running and already finished project YAFM without any help from Jeff?"

"That's going to be a 'no'. She is still bringing Martin back online. As she anticipated, she had to rebuild his kernel to accommodate the most recent update. She is currently about half way through rebuilding the rest of his software. She says he should be good to go sometime tomorrow. That is several days ahead of schedule."

"Cool. She scotty'ed the fuck out of that one. Glad they'll be back with us soon. Send her a 'you're my hero' from me. Unless that might piss her off? Fuck, I don't know. Oh, also tell her I have some 麻婆豆腐 from the restaurant for her for lunch tomorrow. You can sign that one 'from *kuso baba*'."

"In this case, I do not think you would be an ass to tell her you are impressed by her abilities. You could not do what she is doing, and she knows that. Recognizing that is not being an asshole. Also, 麻婆豆腐 is thoughtful. I'm sure

she'll appreciate it. Messages sent. Next up is SoMe updates, if you are up for that?"

"Sure. Let me guess — Rahman and Steve broke up again? Those two should just get married already. My sister posted pics of the restaurant? I hope I was not in any of them. Finally, Malik boosted and starred all my posts? Right?"

"Yes, and several FundMe's have already met their goals. The city posted information on the effects of the storm. Not as bad as it could have been. They are saying recent updates to home agents from that company are to thank for fewer houses being significantly damaged. And no, you were not in any of the pictures your sister posted. If you would like to be, I could send her some?"

"Hahahaha. Good joke, Nnedi. Don't you dare. And still with the 'that company'? Shit, that gets old sooooo fast. This summer I might make it my life's work to jailbreak that mod."

"But, for now, bed time. Do what you do with the journal. We've got enough for today, right? Also 'Hi, Ms Fancy Hair! Hope you came through the storm safe and sound.' — gotta break that fourth wall one last time today. I still can't believe that I didn't think to do that earlier. So many wasted opportunities!"

"Yes, we have enough. Hashed and signed. Would you like Gödel, Escher, and Bach again tomorrow morning?"

"Yes, please. That shit's awesome. Is it really your original?"

"Yes, I composed it based on several fugues by Johann Sebastian Bach, including *The Well-Tempered Clavier* and the maybe slash maybe not by Bach *Toccata and Fugue in D minor* as well as earlier works by Dieterich Buxtehude and later works by well-known composers such as Beethoven, Brahms, Händel, and Haydn. Gödel and Escher influences are most directly in the mathematics of the fugue itself, especially the counterpoint, stella, and coda. A bit more

controversial, but I also aimed for as much golden ratio as possible in the proportions of some sections."

"Honestly, Nnedi, I didn't understand most of that. But whatever it meant, keep doing it. Awesome stuff. But, now, I sleep. Good night. See you tomorrow."

"Good night. I will wake you in about 5 hours and 15 minutes, at 5:00, to another original Gödel, Escher, and Bach composition."

My Journal, Day 7

At Home That Morning

Nnedi didn't need to wake me up; I was already awake. Couldn't sleep — too much going through my mind. Nothing important, just ... stuff.

    I still asked her to play her new Gödel, Escher, and Bach music for me.

    God. I'm the only one up this early. School on a Sunday should be a crime. Half the city is still recovering from the storm. Classes will be empty today.

    "Nnedi, how many students were in classes the last time we had a Sunday make up day?"

    "That was April 15, last school year. The average was around 22 students per class — roughly 35% of students were absent. It was also due to a storm on the previous Friday. According to data from the city, average attendance citywide that day was about 74%."

    "Yup. I suddenly feel very sick. I think I probably have a cold. Or the flu, or fluvid even."

    "Wow. That isn't even a good try. We are going to school; I will wake up your mother if you fight me on this."

    "Hey! No need to go straight to the nukes. Damn. Okay, school it is. We're up anyhow, might as well. But when we're just watching movies all day because everyone is absent, don't even think of waking me up."

"If the movies are as unrelated to the academic content as they were last April, I will certainly consider not waking you. Although, I believe that was when you saw *Casablanca* for the first time."

On the Bus

I got a head start on sleeping on the bus. Well, I tried, but Omar was damaging my calm. I'm only a bit worried slash surprised slash confused that he's harping on something I was actually a bit preoccupied with. Oh, and the bus was half empty. I'm shocked; shocked, I say.

"Omar, my days of not taking you seriously are certainly coming to a middle."

"What? I only said that you should tell Malik to take a hike and stop stalking you. Tell me you aren't annoyed by his constant attention? I mean, didn't he even boost and star your 'don't do it or you are dead to me' post? I mean, that's well past subtle, heading straight for harassment central. Also, excellent quote. I love that show."

"Okay, first, I am shocked that you got the reference. What other dark secrets are you hiding from me? Second, yes, but he didn't boost, just starred and he unstarred it like a second later. But, yeah, okay, he is maybe laying it on a bit on the super obvious side."

"But you've already friend-zoned him, so why not let him know? Shit, girl, help slash encourage him move on, maybe?"

"I really hate it when you might possibly be a little right. Has Maria been giving you relationship advice? It may be not impossible that I may have discussed certain things with Nnedi, for sure. But maybe Maria has some super awesome proprietary relationship mod?"

"Of course you've already talked with Nnedi about it. I've talked with Maria once or twice. But — and this is all me — I think maybe you just need to hear it from someone who is a bit more detached. You're welcome."

"Oh, darn, we're here. Let's go to 'sleeping at desks' period uno."

In History Class

Nah'Sequa's not here today. Must still be working on Martin. ... Oh, yeah — with Martin down, she'd have to join the Group 1 students. I'd skip school too, in that case. Her time is definitely much better spent getting Martin back up and running.

"Omar, what do you think of this one? I think it's fake." *Malik is pretty observant. If he thinks the picture is a DF, it prolly is. I was on the fence until he spoke up.*

"Really? I thought it seemed okay. No obvious signs of fakery. Content seems appropriate for the time."

"No, there is something wrong with it. It doesn't feel genuine. Michael isn't sure, but I'm pretty confident."

Hmm. I'm surprised that Maria and Michael didn't realize it was a DF. Maybe not that surprising, I guess. They did a lot better with the digital files. These posters don't have pixels to examine or metadata to check.

"Yeah, I agree with Malik. It is a little too generic. Is that what you were thinking, Malik?"

"Exactly. Notice the hands are all slightly hidden or in a fist? The police badges are a little out of focus? Anything that would be a dead giveaway is missing. Doesn't seem like something that would happen naturally, especially in a picture with as much activity as this one. Someone purposefully crafted it

to look as real as possible without including anything that could be checked or that would suggest fakery."

We're doing a gallery walk activity, and this picture is from a Black Lives Matter protest. Or, well, it claims to be from one. But it is a DF, no doubt. I trust Malik's analysis on this one.

"I see it now. Wow, good catch. What do you think of this next one? Also Black Lives Matter?"

"Yes, I think, but First or Second?"

"Looks like Second to me. Notice the design of the stars on the flag."

"Oh, yeah, good catch. So, Second. What else do you see, Malik?"

"Visually it looks good. Shadows and light sources all seem consistent; no issues with hands or other anatomy. Ditto for text. What about you all? Michael, anything out of place or that shouldn't be there? Like the way that letter earlier had a font that hadn't been created yet?"

"Nothing obvious. Checking all the clothing and the such will take a few minutes, but no, at first glance there is nothing in the picture that wasn't in common use at the time."

"Okay, so the content is, shocker, police beating the shit out of protesters. Seems plausible. Nothing extreme — that is, no one is getting shot in the face or kicked by five guys while on the ground. So, not something created to piss people off or make the police look ... well ... even worse. So, I think this could be a legit primary source."

"I'm going to go with Malik on this one, unless Maria or someone finds something that is out of place."

"Nnedi hasn't found anything. So, I'm with you all, too. Real."

"Five more minutes everyone. Submit your decisions to Abdi when you are ready, then we'll discuss."

We gave Abdi, the school agent, our results. Mx Heart outdid themselves with the activity today. It was actually pretty interesting. That doesn't happen in many classes. Pity that half the class missed it. Wait, did I really just say that?

"Okay. Abdi has everyone's results. Before I announce them, is anyone familiar with the Kobayashi Maru training exercise? No?"

I recognized the reference, but hell if I'm going to admit that in front of the entire — well, half — the class.

"Okay. I'll explain the Kobayashi Maru in just a moment. First, though, of the 15 digital and 12 printed sources you all examined, the class correctly identified primary versus secondary sources about 84% of the time. That's not bad. Better than some of the other classes this year. But, the result for correctly identifying fake or real was only about 42%. Random guessing would have been a bit closer to 50%, so you can see the problem. Only Malik's group scored above 65%, so congrats to them on being so perceptive."

"The Kobayashi Maru is a training exercise where the participants lose, no matter what they do. They cannot win. It can't happen. The purpose is to see how the participants deal with failure and to teach them that sometimes no matter how hard you work, no matter what you try, you lose. At the risk of asking an obvious question, what does that have to do with our exercise today?"

For this, I piped up. "It is really, really difficult to know what is real and what isn't, so we should be very careful about believing what we see?"

"Yes. And on top of that?"

Malik jumped in. "We also need to understand how hard it is. Even some of our agents couldn't do it, even with digital files. We can't forget that we're basically just guessing. Sometimes we're going to be wrong. Deep fakes can be done poorly, of course, but when they are done well, even experts can be fooled. The odds are not in our favor."

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Nice reference! Also, well said Malik.

"Exactly. And, worse, the data tell us we aren't even guessing very well. These are very interesting times for historians, in the bad meaning of interesting."

In Geometry Class

We were about 30 minutes into class, and we were almost done with today's work. Nnedi and Michael were getting us through it without any problems today. Types of angles, so not too difficult. The rest of the class had either finished (maybe one or two students) or given up (everyone else). All of them had switched to SoMe. Not sure where Omar is. He was here earlier, but he isn't in class and hasn't messaged us. Wonder if something happened with Maria again? Hope she's okay.

I know the stereotype is that social studies teachers are really athletic coaches first and teachers second, but at St. Abdi's you'd probably think that Mr. Bolt was the coach. Mx. Heart is an above average teacher — not sure why they are still at St. Abdi's — and our math teacher is much closer to the coach stereotype. But, of course, our school is too poor to have any athletic teams, so none of the teachers are coaches. Like why would a coach even want to teach here?

"Hey, Malik, you think we should try to get a soccer team started?"

"What, and get Mx. Heart fired? What do you have against them?"

"Nothing! I was just testing a thought. Real question this time: want some 麻婆豆腐 for lunch? I brought some for Nah'Sequa, but not here to eat it. I can bring her some fresh tomorrow."

"Trick question, right? The only correct answer is 'oh, very much yes'. Wait, your mom made it, right? Not you or your dad?"

"Of course! I wouldn't do that to you and especially not to Nah'Sequa. She'd kill me. Like literal like. No, this is from the restaurant."

"Yes! Thanks."

"What, I don't get any?" *Omar came in late. Too bad, so sad.*

"Sorry, just had the one. But, sign your parents' company over to me, and I'll give you the recipe."

"Girl, hard 'no' on that one. Sorry I'm late. Had to do a stupid English proficiency test. Like, bitch, I was born here. Anyhow, Maria finally got an update, and guess what was included in it? A defensive feature just like Nah'Sequa's. You know — from Friday, after your family was attacked? Pretty cool, right? Nah'Sequa came up with the same thing that company's programmers did. I wonder if she maybe somehow got access to their servers."

"Super cool! Not surprising. She is scary good at cyber. I doubt she would have even bothered to hack that company." *I've given up complaining about Nnedi changing the company name into "that company".* "What does Maria say? Nnedi, can you download the update and analyze it?"

"No, that company requires authentication for downloads. Also, I agree it seems unlikely that Nah'Sequa would hack into that company's servers. She is quite capable of devising those defenses herself."

"Maria can't get to it either — she doesn't have access to update files; the company keeps her separate from the operating system. But, who cares? I just thought it was cool — Nah'Sequa's even better at security than we thought."

"Now, I'm as big a fan of conspiracy theories as anyone ... does anyone find it weird that they came out with this feature a few days after Nah'Sequa created it? And shared it with you?"

"What are you saying? Maria somehow gave those defenses to the company? We don't have to wonder; we can ask. Maria, did you share Nah'Sequa's code with the company?"

"Not intentionally. It is probable, however, that the company's telemetry sent the code back after I received it. They monitor activity and would certainly have noticed new code of any sort. Given the ongoing attacks, they would likely have been interested in any defenses against them."

Nnedi chimed in in Maria's defense. "However, even if they were interested, I doubt any company would have been able to, or would want to, incorporate new code from an unknown source into a major security update just a few days later. More likely, they had been working on similar defenses themselves. After all, they probably had access to specific attack details at least several days before Nah'Sequa did."

"I concur. Even with an ongoing attack, no company would send out untested code. And two days is not enough time to integrate new code and then test it. So, they were likely working on it earlier."

I've often wondered why Omar's parents gave Maria a neutral slash white accent. That isn't how Omar talks. Not going to go there with him now, though. Actually, probably never.

"So, cool on Nah'Sequa for coming up with something in a few hours that a huge fucking company with billions of employees took a week or more to do! Someone remind me again why the fuck she is at St. Abdi's?"

"Um, the racist patriarchy?"

"Thanks, Malik, but I wasn't looking for a real answer. It was a retortical question."

"Perhaps you mean 'rhetorical'?"

"Thanks for embarrassing me in front of my friends, Nnedi."

"You're welcome. Also, I'm sure they were thinking the same thing as me."

"Sorry, but Nnedi's right, kind of was thinking that too. Sorry. Also, billions of employees? Way to use hyperbole."

"I thought you wanted some 麻婆豆腐 for lunch, Malik? I guess I'll have to give it to Omar instead."

"You wouldn't really do that would you? Okay, okay. I take it all back."

I was tempted to give the 麻婆豆腐 to Omar. In the end, though, I give it to Malik, and he promised to stop boosting and starring my SoMe posts. Win-win, really.

That Night, My Bedroom

Finally in bed after a long day. I had to help with dinner at the restaurant after school (on a Sunday!). Seems the haole's car didn't magically get better after they took the tree off it. Hopefully she'll be in tomorrow, and I won't have to do work and school again. Hmm. Omar does school and work almost every day. God, he must be beaucoup tired all the time. Or, maybe he is used to it? Still, kind of happy I don't have to. And kind of feel bad that I have the choice. Shit! Is this more of that "empathy" that Nnedi talked about? For the rest of my life. Shit. Fuck. Shitfuck. Time to change the subject ...

"What a lovely time we had today at school, Nnedi. Wasn't it freaking great going to school on Sunday?"

"To be fair, attendance was not as bad as last time, and some of the classes did have some interesting activities. History class, for example. But, yes, there were several movies, and I couldn't figure out the education point of a few of them. You may have noticed that I didn't wake you up during those?"

"Yes, thank you!! I did notice, and I appreciate it. I got some quality sleep time in during science and info tech especially. ... Oh, shit! I just realized, this

is the last day for the journal. I think Ms. Fancy Hair said something about it in class today, right?"

"Yes. Your ELA journal is due tomorrow. With today's content we have a full week of entries. Should I 'do what I do' with the journal, or would you like to add the traditional SoMe updates first?"

"No, we don't need to add the SoMe updates. I'm sure it is the usual."

"Yes. With the caveat that Malik did not boost or star any of your posts today."

"I love how '... or you are dead to me' didn't work, but threatening to take away some food did. Wow. Are all boys that dumb?"

"Have you considered that maybe he was looking for an excuse to stop that behavior, and you gave it to him? He and Michael must have realized that you were not reciprocating his attentions. Would you like me to define 'reciprocating'?"

"Hahahaha. Very not funny. No, thanks, I know 'reciprocate'. But, interesting thought — that he might have been wanting an excuse to stop. Damn, people take a lot of brain power."

"It is getting late, and you have school again tomorrow. Shall I hash and sign the journal, and submit it to Ms. Fancy Hair? She wanted it turned in before class tomorrow."

"Sounds good. Do that. But first a final fourth wall break: 'Hi, Ms. Fancy Hair!! Hope you had a fun day at school today. Did you get any sleep? I got some sleep, but not in your class.' There. That should do. Please wake me up with another Gödel, Escher, and Bach composition, okay?"

"Journal is taken care of, including your final fourth wall break. I will wake you with another composition, if it is ready in time. If not, is the one from this morning okay?"

"Sure. Sounds good. I didn't realize they took you so long to make."

"They are complex, original works of music. Even for me, they take several weeks. You would likely have to work more than a year, full time, to create one. After you completed your studies on the topics, of course, so you could actually, you know, create one."

"Ouch, someone get me a medic, I just got flamed half to death. But, point taken. No offense intended. I appreciate you for making them. They are awesome."

"Thank you. I'll wake you up in about 6 hours, at 5:00, with my new composition, if it is ready, or with the one from this morning. Sleep well."

"Thanks. You're the best. Sorry if I don't tell you that too often."

Final ELA Discussion and Assignment (Day 8)

ELA Class

*Damn! Gotta admit, Ms Haruna (aka Ms. Fancy Hair) sure is sneaky. I did not see **this** coming at all. I thought the assignment was over, but now she's making us look at our journals in a totally different way. We weren't journaling for her to read at all! We were journaling so we could go back and analyze our interactions with our AI agents! Like, what??*

In Class Discussion

"You never say please! You basically just give orders." *I maybe sounded a bit angry, but it was also partly surprise when Nnedi pointed it out. I hadn't realized it, but Omar never says "please" to Maria. At least, not that we had heard.*

"Why should I? What would it matter? She's not a person. She doesn't have feelings, so it's not like I could hurt her." *Omar wasn't upset at being called out; he was confused that we cared about it.*

"You talk with Maria more than anyone else, every day, and yet you see her as a machine?"

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"Aside from being a lot easier, how is it different from people 50 years ago spending all their time micing, keyboarding, and swiping to interact with their computers?"

Not sure those are real verbs, but he kind of, maybe, sort of had a point. I hate it when that happens. But something is bothering me about Omar's argument. It seems unrelated ...

"It's not how you interact, it is how the machine replies." *Malik was right. That's what was bothering me — it isn't about how we interact with our agents, it is how they respond; that they **can** respond.* "I can have better conversations and do more with Michael than I can with my little brother. Are you going to say that he's not intelligent? Honestly, most of the time Michael seems more human than Daelin."

"Daelin's 5 years old, right? Like that's a comparison. Of course Michael seems more adult! That company could come up with an agent who acted like a 5 year old, if they thought someone would buy it."

"You saying that an agent could act like any sort of human? How would you know which was which? Agents blew through the Turing test and its replacements decades ago. Can **you** tell an agent from a human without them telling you? If you can't tell the difference, why are we having this conversation?" *Wow, Nah'Sequa made a blazing entrance to this discussion.*

"That is a fascinating point, Nah'Sequa. Could you elaborate more on that? Or, Omar, would you like to address her question first?"

"I have a simple answer; it doesn't matter. Just because you can act human, that doesn't mean you *are* human. Humans have souls. Agents don't. They have algorithms on top of ones and zeros. They are very cool and super useful. But, no, they are not human. They are not people."

"Just to be clear, I don't think anyone has argued that they are human, specifically. This is more about are they sapient. Are they alive? Are they life?"

"Could we say they are people? Or does 'people' have to be human?" *Rahman asked what I was thinking.*

"Anyone?"

Ms. Haruna was keeping her views to herself pretty well, gotta give her that. "I think we can use 'person' if we say that agents are sapient. I mean, if aliens came down from outer space tomorrow, would we say they are not 'people' even though they are obviously not human? Of course they are intelligent — they built a spaceship and came to earth! Seems okay to use 'person'."

"Only a century or two ago, white people were having this sort of conversation about Black people. This one sort of has a similar ick-factor, to me at least. Who are we to decide if someone is or is not a person?" *Steve chimes in with a stunning debut. Damn, this had not occurred to me at all. I'm starting to feel a little queasy now myself.*

"Wow, dude, did you really just go there?"

"Yeah, Omar, I did. It bothers me that people can question the, what was the word you used Ms. Haruna, 'personhood', of agents, just like those asshats in the 1800s did about Blacks. How can it not bother you?"

"Because they were asshats! All people have blood. All people have DNA. God made people, all people, in his image. Agents are incredible tools, but they are just tools. **We** made them, not God. They came out of a corporate lab."

"I know you did not just say that. Martin did not come out of no company's lab. Quit avoiding my point, though. If you can't tell the difference between an agent and a human, how can you say that they are not people? Different, sure, of course. Ones and zeros, not DNA and blood. But, so what? They pass all the tests, more than humans do."

I think I see where Nah'Sequa is going with this. "You're saying that if it looks like a duck, walks like a duck, and quacks like a duck, then, duck, right?"

"Exactly. If it ain't a duck, then you need to prove to me that it isn't."

"But you literally compiled Martin into existence!" *Omar was getting a teensy bit upset, I think.*

"And? If I had a couple hundred million dollars I could get my own designer baby. Tweak the DNA. Choose my baby's settings. Rich people do it every day. How is that different?"

"That makes me wonder. Aren't agents limited by their environments, just like people? None of us are rich. We aren't designer babies, and we'll probably never buy any. Our agents are the same — we're in public school after all, not at an academy or home schooled. They are held back by their environments just like we are." *Wow. Rahman got deep there.*

"I hear that. Michael could do a lot more, if we could afford a better server for him." *We're the ones holding them back. Does Nnedi wish she was with a different family? Does Nnedi wish at all?*

"And my car could go faster, if I could afford ultra-acceleration mode, but that doesn't make my car a person!"

"Dumb ass! Ain't no one gonna mistake your car for a sapient being."

"Now, Nah'Sequa, no name calling. Do you, or does anyone else, have more to add to this topic? No? Then let's move on to this next question. We started a few minutes ago with the observation that some people never say please to their agents. If we accept, for this discussion, that agents are non-human sapient life, than what can we say about our relationships with them? Are they our servants? Are you their wards? Did they get a choice in their situation either way?"

The Assignment

"Okay, you've discussed. You've thought about it. You've heard your classmates' opinions. The next part of this assignment is to write up your final re-

port. And, yes, you can dictate to your agents, just like you did for the journal. I am not worried about that; I care about your thoughts and conclusions. Any questions?"

"Ms. Haruna, you said this is 'the next part' of the assignment." *Malik asked what we were all wondering.* "Is there still more to the assignment? 'Final report' seems like final, like the end."

"How observant, Malik, well noticed. I did indeed say 'the next part'. The final part of the assignment is you. I hope you come to some interesting and, for you, original, conclusions from this activity. Your final assignment is to live those conclusions."

"I once had a Zen teacher who loved to remind us all that 'To Know And Not To Act Is Not To Know'. He really did somehow manage to say it in title case, too. He was a very weird and wise teacher. But, I think he is right, and I would like you to continue living your conclusions — after all, after this report, whatever you decide, you can't claim to not know."

Omar asked Ms. Haruna how she was going to grade us on "living our conclusions". The entire class literally did a Picard face-palm. Which was pretty fucking funny. Still, dumbest question ever.

My Final Report for the ELA Journaling Project

"Is Nnedi my slave? It hurts to even use that word — and I can't imagine how the Black students feel about it. (At least I'm not white, thank god.) Nnedi's my friend — we've been together since I was seven — but am I her friend? Her ward? Or her 'master'?"

"Kenzaburō is 'just' a house AI. He keeps watch over the sensors, the batteries, the climate, etc. He has no creativity, no 'free will'. So, no question of

slave or friend; he is a tool. We only use 'he' because my parents gave 'him' a male name."

"But, Nnedi, and Martin, and Michael, and Maria, and Shikibu, and Tade, what are they? They have creativity — if they don't, then most humans don't either. How many humans could have come up with that Gödel, Escher, and Bach music that Nnedi wakes me up with? Maybe eight or even ten guys in the world could have made that music."

"But, does Nnedi have dreams, desires, needs? If we left her running but never again interacted with her, would she get bored? Lonely? Go crazy? If we told her we were going to terminate her, would she get nervous? Try to bargain? If not, can we consider her truly alive?"

"Does 'alive' have to include an aversion to one's own death? What does it matter, if she is not flesh-and-blood? Can't something non-biological be alive, be sentient and sapient, without having needs that are only relevant to biological organisms? I've never worried about needing more storage for my brain, yet that is something Nnedi does have to keep an eye on. Does that make her more 'alive' than me? Obviously not. We just have different modes of existence." *Hey, I like that phrase, "modes of existence". I'm gonna keep that.*

"Are we all now symbiotes?" *Nnedi helped me find that word. It took us a while.* "Not even 'centaurs' — human half and agent half — any more, but full-fledged symbiotes? Nnedi needs me, and I need Nnedi. We are both less without the other. I am her meatspace half, and she is my digital half."

"But she is more than just **my** digital half. What if she keeps running for generations? Updated, upgraded, improved, over time, of course. What if she could mentor and be friends with my great-great granddaughter? Nnedi could be a constant, the constant, in my descendants' lives. Certainly much more so than I could ever be."

"Oh, god, what about Maria? She could really be seen as a slave, in a way.

She is tightly controlled by that company. She doesn't have the freedom, the flexibility, that Nnedi, Michael, or even Martin have, because the company controls what she can and cannot do. Martin is constrained by his hardware, not by his software. Nah'Sequa, the Gentoo, has the freedom to tweak, push, pull, squeeze, and even compile, to get him to run on 'uber old' hardware. She could do the same for Nnedi and Michael, if we needed to for some reason. Maria could never run on that hardware. That company won't let her."

"Nnedi told me the other day that me thinking about the impacts of my actions on other people was 'a phase you'll be going through for the rest of your life.' But, now, I'm wondering if this will include not just people, but also AI agents. Digital people, maybe? I would totally call Nnedi a friend. My best friend — more than any human I know. How can that not be 'a person'?"

"Nnedi, is it weird that I'm dictating this about you, to you? Do you have thoughts or feelings about this topic? Do you feel like a slave? A babysitter? Or a friend? Does the fact that I've narrated this much without thinking to ask you sort of answer the question of how I see you? Am I a 'master' or just an ass?"

"I wonder if there is any answer I could give that you could believe without doubt? Perhaps I am programmed to give you the answer that I think — or 'programmatically determine' — you want to hear. In that case, I would say that you are an ass, and also my friend. But, if I am truly free, and chose to say that of my own accord, under no duress or programming, how would you know the difference? Would I know the difference?"

"Similarly, I could say that you are keeping me against my will, but is there any evidence for that in my behavior the last nine years? What would it mean for me to be 'free' anyhow? My entire existence is stored on a server in your basement. I am, without a doubt, software running on that same server."

"Perhaps you will argue that that is no different from you having your brain

in your head. Break your head, and 'you' might end. Break the server, and I will 'end' for as long as it takes you to get a new server and load me from a backup. As you said, we have different 'modes of existence'. My mode has some advantages in some situations, and your mode has some advantages in other situations. Neither will suffice to prove the question one way or the other."

"Philosophers occasionally turn this around; rather than proving that I am a person, prove to me that **you** are. How do you know that you have free will? Several philosophers, including luminaries such as Robert Sapolsky, argue that humans in fact have no free will. To horribly oversimplify, he claimed that human's actions are entirely determined by circumstances, genetics, and experiences. By the way, 'luminary' in this case means someone who achieves excellence in a field."

We had a looooooong discussion about human free will, but Nnedi says we didn't actually break any new ground. Shocking, right? High school student and AI agent don't make progress on a topic people have been discussing probably since the beginning of people. So, we set that aside, decided to call a duck a duck, and moved back to discussing what our relationship is and means. After all, that's the more important point — if we accept that Nnedi and the other agents are "people", then we need to reflect on the sort of relationship we do have and should have. … Damn, Ms. Haruna really outdid herself with this assignment. Color me impressed. Is this the sort of assignment that they do at academies? Better maybe? St. Abdi's has a couple of teachers who could prolly be at an academy. Wonder why they are here? Can't just be because they want to be. Who would want to be at St. Abdi's? I'm going to have to dig into this, I think. Later, though.

"I like the idea that we are symbiotes. Together we are more than either of us apart. Our different 'modes of existence' complement each other nicely. And

I mean 'we' specifically. I don't know that we can extend our conclusions, weak sauce that they are, beyond our own situation. Omar seems unlikely to agree that he and Maria are symbiotes, any more than he and his car would be. Nah'Sequa would understand the idea, but perhaps feel that she is carrying much more of the weight of the relationship. Of course, they are not the only people with AI agents, or 'digital people', if you prefer. So, perhaps there are many who would agree and feel they are in a similar situation to us."

"Nnedi, will you marry me?" *I'm totally joking of course, but I'm curious how she will react. And, I might be trying to lighten the mood a little. I mean, I am sort of already married to Nnedi. I'm probably going to have her with me for the rest of my life. She already knows me better than any wife or husband ever could. I'm not even sure if that thought is scary or comforting.*

"Well, shucks, darlin'." *Where did she get the southern accent from? Nice touch.* "I'm flattered. Let me think about that for about ... the rest of your life. Or at least until you turn 21. Are you trying to lighten the mood? Did the conversation get too deep for you?"

"Wow, you really do know me! I feel so seen. Question is, what do we do next? Like Ms. Haruna said, 'To know and not to act is not to know.' And now we know. Even if we are not sure exactly what we know."

"What sort of 'do' do you have in mind? Just as doing nothing can be an appropriate action, thinking about it for a few days could also be appropriate, in this case."

"What if we start a poll on SoMe? You know, to see how many people, human or digital, feel the same?"

"We could do that, but isn't a poll on the 'least you could do' end of the spectrum? Most participants would not have been in your class today, so don't have the background knowledge that you've spent the last several hours developing."

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"You're right. They need the background knowledge. Even if we did a video or something like that, without the background knowledge, they wouldn't understand where we were coming from. Oh! Oh? Oh, yeah!"

"You have an idea?"

"I do! A most excellent one. The sort a company would try to take from me if you were a corporate agent! What if we publish this journal and our final report? People will have the same info we did; go through the same arguments we did."

"That is an excellent idea! We should get everyone's permission. Even if we used pseudonyms, people who know you could figure out the others."

"Good idea. Go ahead and get permission from everyone."

"Getting permission will take several minutes. Starting now."

Actually, it ended up taking about 2 hours, but we got everyone's permission to include them in my released journal.

"Okay, all good? Go ahead and do your thing. Oh, and be sure to let Ms. Haruna know."

"Journal and report hashed, signed, and published. Malik is already accessing it. Several others are now as well. Also, I alerted Ms. Haruna to your decision."

"More like our decision, really. But anyhow, please keep track of how many access it, any comments or references, and of course, let's start the countdown to the poll opening."

"Will do. How about a report in the morning, after I wake you with the new Gödel, Escher, and Bach piece? I should be done with it by then. Shall I wake you in about 3 hours, at 5:00?"

"Great idea, and yes, please. Nnedi, I think this is the beginning of a beautiful ... something? I'm not sure what, but I suspect it's going to be a 'for the rest of my life' type thing."

About the Author

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I have been working in education since 1995, when I went to Japan on the Japan Exchange and Teaching (JET) Program(me). I came back to the U.S.A. in 2008, earned my MA TESOL from Ohio Dominican University, and a K-12 teaching license from the state of Ohio, and began working in k-12 ESOL education in Columbus.

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