Connegation Cf.S: A Family-Building Project

BY KYLE RODGERS



The Skyline pod speeds along the suspension cables, zipping from skyscraper to skyscraper more than 100 stories above the congested city of New Philly, Pennsylvania. One can tell exactly when it crosses over from the sleek high-rises of center city to the worn dull-grey compartments of the lower district, known as the Compacts. All the identical high-density living complexes stand shoulder-to-shoulder and reach far into the clouds.

I've been studying four months straight for this real-patient experience, so you can imagine my disappointment finding out I'm assigned to the Compacts, which has pretty much become all robotic healthcare anyway.

I can still hear my programming professor laughing as I left the medical school campus: "There ain't gonna be nothin' left to do! Good luck tightenin' its nuts 'n' bolts!"

He thinks Medic Aids have made human doctors obsolete.

Looking through the transparent shell of the pod, I see one of the few remaining bulletin billboards in the city standing over the Compacts from the early days of its construction. Although the colors are mostly faded, one can still make out the happy family staged around a kitchen table adorned with enough food to feed them for weeks. Above the worn image reads: "Affordable: 100% nuclearpowered compartments. The Compacts is a family-building project."

Clearly, my assigned mentor has taken public transit before, or she would also be clutching the seat until her knuckles turned tawny beige. Instead, Dr. Terika Taylor sits across from me comfortably. The glass pod speeds along the cable towards the corner of a building before following the sharp turn towards the next anchor point on the adjacent building. The loose cable swings back and forth in the brisk November wind.

Terika notices my audible breathing.

"I remember my first ride to the Compacts. You know, it's not that bad. When I was an apprentice, we weren't able to treat people at home. We used to have to send all the sick people to actual hospitals."

I tug nervously at the collar on my medical coat, which has rubbed my pale white neck to a more irritated rosy color.

She looks out the pod and snorts to herself.

"Yeah, like that was a good idea. Let's cram all the infectious people into one building and just *hope* they get better."

I have no idea how to respond, so I fish through my pockets for my iEars. I push one in.

Oops. She isn't done talking. I hold the other earpiece by my face, waiting to pop it in.

"Probably seemed so impressive back then. But then again, we have all this tech and we still aren't *keeping* people from getting sick. Now *that* would be impressive! My mentor thought we could help so many more people if we just weren't so self-absorbed. He was old school. He used to always tell me 'you're gonna miss the real reason why people are sick if you aren't-""

Seeing me poised with my iEar, she gestures me to insert it.

"-paying attention."

I smile innocently, a futile attempt to reconcile my impatience. I definitely screwed that up. Oh well. Electronic tones ebb and flow over an echoing drum beat. Closing my eyes, I lean back against the seat.

The Skyline pod locks onto the rails of the massive compartment complex and zips up the side. After docking into the top floor, the pod splits into two halves, pulling apart like a hard-boiled egg cut down the middle. I step out and follow Terika down the hallway. The walls are painted plain white with computer-generated abstract art piece projected onto them. However, the small projections don't attract much attention, because most of the walls are occupied by compartment doors. Identical sliding panes of frosted glass line the entire length of the hallway, each no more than ten feet apart. I stare down at the disgusting green carpet; it probably looked brighter when it was new.

As we approach the door at the end of the hall, the glass transitions to a transparent pane of crystal, revealing a Medic Aid automaton on the other side. Its glossy-white polymer coating is shaped like a human from the chest up. Below the human half, its torso flares outward into a boxy bottom with drawers, resembling an old filing cabinet from the 20th century. The whole machine balances on a single tubular wheel like a Segway. Its face has pleasant babyblue lights resembling two eyes, a nose, and a smile.

It speaks with a soft female voice. "Good afternoon. Please hold still for facial recognition... facial recognition is a match. Welcome, Dr. Taylor."

The glass slides to the side. Terika and I walk in and hand the Medic Aid our coats and it hangs them on a revolving coat rack in the wall.

"This way, please," it says as it leads us into the studio room.

The entire compartment is no bigger than an RV. The entrance leads into one claustrophobic room, which contains a tiny kitchen, a partitioned bathroom, and a carpeted living room. A small bed dominates most of the cramped space with only a cluttered nightstand next to it. There are so many crumpled white patches on it that some have fallen onto the carpet below.

In the bed lays a beautiful middle-aged woman propped back on both her elbows. The first thing I notice is that she is *very* pregnant. She holds an arm out, her eyes glowing at the sight of Terika.

"¡Awe, Dr. Taylor, mi conejita! Venga aquí."

I stand back uncomfortably as Terika gives the pregnant woman a warm hug, unsure of what she just said. Thankfully, the Medic Aid rolls over to the bedside and begins to translate.

"Come here."

Terika laughs and sits on the side of the bed, still holding Roberta's hand in hers.

"Pues, vamos a revisar..."

"... review your diagnostic today and if all goes well, you should be holding your son in your arms in less than two weeks."

Terika stands and turns to the Medic Aid.

"Medic. Display patient file."

The Medic Aid whirs as it looks upward. From its eyes projects several holograms of charts into the space at the foot of the bed.

"Fetal imaging as well."

The Medic Aid rolls around the other side of the bed. One of its drawers opens and a cylindrical probe on the end of a multijointed arm extends out and presses against Roberta's abdomen. Immediately, a fantastic projection of the fetus, upside down in the uterus, joins the charts in 3-D space. He paws at his closed eyes lightly with a tiny closed fist.

Terika gestures to the glowing pages.

"John, why don't you review the chart for us."

I scowl. I'm never going to have to do this in *real* practice.

"The Medic Aid has a review function. Can we just use that?"

"You can do it," Terika glares, unfazed by the clanking thermo-unit heating up in the corner.

Although I say "ok," it sounds more like "whatever." I walk to the other side of the holographic charts that shimmer as I pass through them.

"The patient is a 48-year-old pregnant female at 37 weeks gestation. Delivery confirmed for 11 days from now."

Terika raises an eyebrow at me. "Does 'the patient' have a name?"

Roberta chuckles. I don't see what's so funny.

"Mrs. García."

"Good! We must always remember our patients are human beings first," Terika gestures for me to continue. "Fetal monitoring?"

I clear my throat.

"Rh incompatibility was corrected with administration of nanobots at 3-days gestation. Alloimmune antibody levels still undetectable. As expected, fetus had trisomy 21, resulting in Down Syndrome. This was corrected at 1-week gestation with CRISPR. And at 8-days gestation, placental hypoplasia was corrected with hormone therapy. Everything else seems normal..."

I frown as I flick further through the file. There's record of 50 more genetic mutations.

"This doesn't make any sense."

"Go on."

"Five weeks go by and the fetus develops normally. But then there is a spontaneous deletion at F508."

"Right, cystic fibrosis. Was that corrected?"

"Yes, immediately corrected by CRISPR, but then a deletion at the HEXA locus at 8 weeks. And more corrected mutations at weeks 11, 15, 18, 19, two in week 20..."

I turn to look at an alarmed Dr. Taylor. "This isn't normal, right?"

Terika darts around the bed and starts scrolling through pages.

"Maternal monitoring shows spikes in... gamma radiation?"

She has effectively pushed me out of the way. I strain to see over her shoulder.

"Radiation? From what?"

Terika continues to talk out loud.

"Starting at week 8 all the way up to yesterday... It's consistent with the fetal monitoring."

I get flustered. I don't like not knowing things.

"How did she get exposed to radiation?"

"I don't know. We have to move them out of here right now."

Terika turns to the glossy white automaton.

"Medic, where is this gamma radiation coming from?"

The Medic Aid, which is still pressing the probe to Roberta's belly and projecting the holograms at them, explains in its soft voice.

"The nuclear thermo-unit in this compartment is overdue for repairs. It has been emitting episodic doses of increasing radiation for 241 days."

Ka-klank-klank!

Right on cue, the thermo-unit rattles again. Terika frantically expands the history report, scanning the whole projection.

I step towards the machine.

"Medic, why weren't we alerted of this?"

"All genetic mutations were treated according to protocol," The Medic Aid responds.

Ka-klank-klank!

I turn to Terika.

"Dr. Taylor! Why weren't we alerted?"

Terika stops.

"John, Medic Aids are programmed to *treat* diseases, not prevent them."

"Why not?"

"Welcome to the Compacts," she says as she turns back to the charts. "Medic! How many radiation patches have you burned through?"

"I have three personal radiation absorption patches remaining in my inventory."

I grab my hair with both hands and start to pace.

"Three left? Jesus Christ! You're programmed to alert us on the first medical emergency!"

"No emergencies were detected. All genetic mutations were-"

"-Oh shut the hell up!"

Ka-klank-KLANGGGG!

Suddenly, the front of the thermo-unit clatters to the linoleum floor, revealing intricate loops of silvery-grey glowing tubes inside. One of the cracked tubes drips phosphorescent goo, which vaporizes into silvery wisps as it lands on the floor.

Instantly, the lights in the room turn deep red and an alarm buzzer sounds overhead.

ERRT! ERRT! ERRT! ERRT!

The Medic Aid whirs and rolls between us.

"Gamma radiation detected. Administering radiation absorption patches."

One of its drawers pops open, and extra spider-like arms extend out with its last three patches. Roberta, well accustomed to this routine has already begun fixing the strip to the center of her chest. Terika and I do the same.

An unauthentic calm mechanical voice speaks overhead.

"THIS COMPARTMENT IS UNDER QUARANTINE. PLEASE STAY CALM. HELP IS ON THE WAY."

I sprint to the door. Locked! I pound my fists on the glass.

"Dammit!"

The Medic Aid looks up from scanning Roberta's abdomen.

"Fetal radiation levels critical. Repairing genetic damage. Vital signs dropping."

I turn and watch, paralyzed, as Terika runs scanners over Roberta with her eyes trained on the projected hologram of the baby floating upside down in the middle of the room.

"No detectable heartbeat. Administering electrical therapy..."

The projected baby convulses several times violently.

"... heartbeat restored."

I'm not sure when I finally snap back to reality, but I run back to them, pulsing with adrenaline.

"Dr. Taylor! What should I do?"

Terika notices me hyperventilating over her shoulder.

"First? Calm down. We need to prep the field for a C-section."

I run an antimicrobial scanner over Roberta's exposed belly without question.

"Sterilized!"

Terika nods.

"Medic! Begin fetal extraction."

"Operation denied. Continuing in utero treatment."

Terika snaps.

"What?! Explain!"

The Medic Aid shocks the fetus again, restarting its heart.

"Fetal extraction fails to decrease radiation poisoning and produces unnecessary risk. Continuing in utero treatment."

Terika inhales sharply.

"He's going to die anyway! Begin fetal extraction."

The wheels in my head start spinning at Mach speeds. The radiation will kill this baby no matter where it is, but the Medic Aid won't stop restarting its organs until they fail completely.

"Operation produces unnecessary risk. Continuing-"

All of the sounds in the room fade away as I fall deep in thought. How can we circumvent its programming enough to justify getting him into his mom's arms?

That's it! Programming! I leap to the hologram charts.

"Medic. Open Control Panel."

As soon as the display appears, I frantically open windows, select options and flick them to the background all by muscle memory. Maybe those programming courses were useful after all. Perplexed, Terika crosses over to me.

"What are you doing?"

I don't dare take my eyes from the display.

"If I can gain access to the Medic Aid's security program, I can override the command feed with manual control."

"Do the operation by hand?!"

"You said patients are human beings first. It's either this or that baby gets shocked until his heart gives out."

Terika gives me a curious look - no one is unteachable.

"I *did* say that, but you're still an apprentice. You can't operate on a patient."

I stop and turn to her, revealing the plan.

"You're right. I can't operate. But you can."

Terika steps back.

"Me?"

"Yes you!"

She shakes her head.

"No one's done an actual operation by hand in 50 years. And... and the last time I did this was a simulation in medical school."

"It's already done, and we're running out of time. What's it gonna be?"

I throw my hands up and step back from the display, which shimmers and instantly renders into a hologram of Roberta's abdomen below several floating surgical instruments.

I sit on the side of the bed.

After a moment, Terika nods.

"Medic, administer local anesthetic."

Suddenly, I feel Roberta take my hand and squeeze. I return some pressure.

"Administered. Monitoring local anesthesia."

Terika reaches up, grabs the scalpel hologram, and drags it down to the projection of Roberta's pregnant belly. Simultaneously, the Medic Aid mirrors her movements, selecting the steel blade from its sterile storage drawer, and lowering it down to Roberta.

Over the next 20 minutes, I watch in awe as Dr. Taylor expertly operates on the hologram and the Medic Aid mimics her grace on Roberta.

Then, in one of the most beautiful moments I have ever experienced, a cry cuts through the room. Not a cry that worries me, but rather, a comforting cry. It drowns out the blaring alarm.

It soothes my ears. Terika reaches into the hologram, and the Medic Aid lifts up a wriggling baby before placing it on Roberta's chest.

Roberta wipes joyful tears from her eyes.

"¡Mi hijo! ¡Dr. Taylor, gracias muchísimo! Thank you! Thank you!"

Terika smiles and returns to the hologram. The Medic Aid whirs and proceeds to follow command, closing up Roberta's abdomen.

"Infant radiation levels rising."

I look down at Roberta's deflated belly as the Medic Aid passes a laser over the incisions. The skin pulls together and seals up, leaving no sign of the pregnancy or surgery. Terika, still leaning over the projection, scans the last section on the hologram.

"Sra. García. We're all done here. Now I'm going to be honest. Your son-"

"-Infant radiation levels falling."

What?

My head snaps back. Roberta presses her radiation patch to her son; the adult-sized patch covers his entire chest and belly. I spin around to tell Terika, but an arm of rich umber complexion already rests on my shoulder. "Dr. Taylor! She-"

I stop; she already knows. Why is she just standing there?

Taking a blanket from the edge of the bed, she swaddles the baby and looks up at Roberta.

"You sure?"

Roberta nods.

"What the hell," I start to raise my voice.

"Dr. Taylor, we have to do something!"

But they both just look at me with deafening sobriety. Roberta already looks tired and pale. I'm not sure if her eyes are red because of radiation poisoning or the tears welling up as she looks back down at her son. The Medic Aid whirs and rolls over to her.

"Radiation levels lethal, seek-"

Roberta feebly bats a hand at the blue-eyed automaton, "Apaga."

The whirring slows and stops as the hologram projections fade out and its eyes go dark.

Terika sits on the edge of the bed, supporting the baby against Roberta's breast.

I just stare, horrified.

"Oh my God."

Roberta chuckles laboriously.

"You thought it can't shut up?"

I can't help but crack a short-lived smile. She winces like she was just punched in the gut. I kneel next to her.

"Just hold on. Help is on the way."

She coughs and smirks weakly.

"Little boy, this is Compacts. We can have pizza here faster than doctors."

She looks at Terika, no longer able to keep the tears from rolling down her cheeks.

"Why they let this happen?"

She starts to point to the exposed heating unit but instead heaves bloody vomit onto the floor. The toxic stench rakes the inside of my nose, but I resist the urge to move.

Roberta wipes her mouth and slumps back into the bed. She says something inaudibly.

I sit up on my knees quickly.

"What?"

I try to smile encouragingly, but it feels inappropriate.

Her voice is only a breath.

"Stay."

She closes her eyes, and that's what I do; I stay. I stay for the longest hour of my life. Her grip loosens as her breathing becomes more labored. I feel her hand get warmer and warmer as the fever sets in. Then it gets colder.

Just as her will finally gives out and her lifeless hand slips from my grasp, a silhouette pounds on the compartment door. Another figure pulls a four-pronged instrument from a case and clamps it to the glass panel.

"Stand back! We're comin' in! Three... two... one..."

THE END



Kyle Rogers

Kyle Rodgers, raised in Lancaster, PA, is currently a first-year medical student at Sidney Kimmel Medical College at Thomas Jefferson University in Philadelphia, PA. He plans to graduate in 2022 as a Doctor of Medicine. When his nose is not buried in dense textbooks, he enjoys volunteering his time and relaxing with more artistic endeavors such as singing, playing piano, and writing stories.

After graduating from the University of Scranton in 2017, Kyle began a year-long volunteering commitment on the Navajo Nation Native American Reservation. From his university graduation until his medical college matriculation, Kyle supervised the adult day treatment program at St. Michael's Association for Special Education (SMASE), located in Window Rock, Arizona. There, he served native adults suffering from a wide range of developmental disabilities. He still visits his friends at SMASE.

His experience on the reservation sparked further interest in helping underserved populations. He currently volunteers at JeffHOPE's weekly medical clinic at Prevention Point, a nonprofit harm-reduction organization in Kensington, Philadelphia. Additionally, he volunteers once a week at Health Careers Academy, where he introduces local high-school students to the field of medicine.

"2100: A Health Odyssey" is the first public writing competition into which Kyle has ever entered. He hopes his entry not only entertains but also serves the community in raising awareness of socioeconomic disparities in healthcare today.