

Trails

An odd short story by Patrick Wolfert

Bridget sat on an old wooden chair in her grandmother's garden house watching the dust particles dancing in the morning light that shone through the dirty glass walls, and she was reminded of something she had read concerning the makeup of household dust. In the garden house, she was sure the dust consisted mostly of minerals and plant pollen, but she couldn't help but wonder what percentage was actually human skin cells.

Now, many people might find this thought particularly disturbing and out-of-place in a modern era of sterility and order—an era marked by minimalism, straight lines, and clean and versatile energy—but she found it wonderfully human and personal. The idea that we as humans leave a trail wherever we go, that our influence is marked by real, tangible pieces of ourselves, was a charming idea to her.

She set her teacup down on a round, copper-topped table, which had long ago developed a gorgeous green patina, and picked up a textbook entitled *History of Dutch and Flemish Art from 1400 to 1700 AD*. She was attending the nearby university and living with her grandmother in her little cottage on the edge of town. Bridget sold flowers during the spring and summer for a little extra money, and tulip season had just begun. Her eyes dutifully continued to scan the pages of her textbook, but her mind had once again wandered off. She smiled as she thought of all the places she had been and all the pieces of her left behind. The strand of hair on a friend's sweater, the piece of her fingernail she nervously chewed off and left in the exam hall, an over-batted eyelash falling on the terrace floor in the moonlight—what a grand story all these things would tell!

Bridget loved stories. She loved history. She loved the old-fashioned wristwatch her parents gave her last week for her birthday. "Oh!" she cried aloud, "It's time to go to class!" She ran inside the back door of the enchanting—if not slightly worn-out—cottage, grabbed her canvas book bag, kissed her darling grandmother on the cheek, and ran back out and around to the side of the house where her bike was waiting for her under a lean-to.

She pedaled quickly down the road, her short, light-brown hair fluttering in the wind as she blew through the vaulted corridor of oak trees standing on either side of the street. Nearing the end of the corridor, the frantic cyclist slowed herself so she wouldn't hit any of the

pedestrians walking about the great green plaza that was dominated by a ring of monolithic stone obelisks surrounding a fountain. A diverse and colorful group of students and faculty filled the area with the hum of human voices participating in deep and shallow conversations covering an enormous breadth of topics. Once in a while a shout could be heard above the din that brought distant friends together, and just as often somebody would be hit with a bout of uncontrollable laughter that, far from being obnoxious to Bridget, made her smile and let go of some of the anxiety that she felt for being late.

She made her way quickly to the opposite side of the roundabout and continued off toward an old brick building hemmed in by thick green shrubbery and shaded by a large willow tree. Rolling up to the big green-painted bike racks near the building, Bridget glanced at her watch again. She said something that wasn't entirely ladylike.

At the back of the grand lecture hall, a door slowly crept its way open. The coast looked clear, and Bridget glided across the floor and quietly slunk into a chair made of laminated wood. She had a bit of a surprised look about her, for she expected everyone's heads to be down and writing; however, her professor stood at the front of the room pointing his laser at a diagram and rambling on about RNA and nucleic acids. She turned to a student next to her and whispered, "Wasn't there supposed to be a quiz today?"

"He postponed it till Thursday." The fellow went back to flirting with the outside world via the electronic device he had concealed below the desk.

After she had settled back into lecture mode and her heart rate dropped to a normal resting state, she looked down at her open notebook. Doodles of double-helices filled her left margin, but the actual page was rather sparse. Bridget loved stories. She loved history. She loved the old-fashioned wrist-watch her parents gave her. But she didn't love cell biology. Looking up at her white-haired professor, listening to the monotone sound coming out of his slowly undulating lips, she started to feel sleepy.

Bridget awoke to a chattering room of students shuffling out through the two double-wide doors. The fellow who had been next to her before had left as soon as the hour had turned, and she was the only one left in her row. *Nobody bothered to wake me on their way out*, she remarked to herself, a little annoyed. She looked down to the front of the room where the old professor was carefully sliding stacks of papers into his leather bag. She gently descended the wide steps to where he stood. He looked up.

"Miss Ackerly, you were looking rather engaged in my lecture, as usual."

She looked up at him sheepishly. "I'm really sorry, Professor Goodwin. I was up late last

night writing a paper, and as much as I find your diagrams incredibly interesting, the whole genetic code duplication thing is just not my thing.”

“I see,” said Prof. Goodwin. He paused, considering something. “You know, Miss Ackerly, I might have something that *would* in fact interest you...It’s related to cell biology of course.”

Bridget glanced at her watch, trying not to appear as if she was glancing at her watch.

“What a quaint wristwatch. Lovely, I mean, but I’m sure it holds a lot of history. I can imagine a good many minutes have ticked across its face.” The professor stared passed it into time and space and then snapped out of it when Bridget moved her hand to reposition the strap of her book bag on her shoulder. “Well, what do you say? Are you curious?”

“I’ve got some time,” she replied with an inflection that she hoped would convey her appreciation of his effort to engage her in the material. He had been going out of his way to help her this quarter, and she felt bad for being such a poor student. But on the other hand, she was somewhat hesitant. He was a dear old man—albeit somewhat inanimate and dry—but she couldn’t see any way in which this deadpan old fellow would be able to do anything more to bring this biology class to life.

“Splendid,” said Prof. Goodwin flatly, for he was a man who relied on his choice of words to convey meaning and emotion rather than intonation in his voice. For a biology professor, he seemed to be less evolved in his ability to utilize his vocal cords than most individuals of his species. “Follow me to my laboratory, if you would.”

Bridget followed him out of the building while sending word to her grandmother not to wait for her in starting lunch. She passed under the great willow tree and towards the plaza, resigning to pick up her bike at a later time. In the plaza, Prof. Goodwin stopped and looked about. At their two o’clock, a young man in his mid-twenties with the look of graduate school about him came running up to them. He stopped in front of them and put his hands on his thighs for a few seconds while he caught his breath.

“You needed help demoing the project, Professor?” he asked in a cheery but winded voice that told Bridget that he was rather enthusiastic about the project. *Or maybe it’s not the project he’s interested in*, she thought as she caught his furtive glance and asymmetrical little grin.

“Yes, Franz. I would like to introduce Miss Ackerly to one of the miracles of modern science.”

She extended her hand towards him. “Bridget,” she said.

“Delighted.”

They shook, and the three of them made their way towards the other side of campus to a building that hosted most of the university’s lab research. It was an imposing grey structure left over from architecture’s brutalist era. Prof. Goodwin saw Bridget’s countenance change and made a comment: “It looks drab on the outside, Miss Ackerly, but this building contains such wonders as you’ve never dreamed of...in the research and development phases, of course.”

“I don’t doubt it,” she piped, trying to sound excited. She looked up towards the top of the structure as they passed through those doors that she had never before found reason to enter. The foyer was well lit, thanks to the walls of glass panes that ran between the massive concrete pillars from the ground to a third-floor height.

Prof. Goodwin ascended the several flights of steps with quiet determination while the other two followed silently behind, significantly less affected in their own efforts. The stairs ended at the top of the open foyer, and the three stood before a long hall lit mostly by fluorescent lights. Prof. Goodwin led the party along the hall with a steady cadence until they reached a door located near the center of the building.

As her guide began to open the door, Bridget half-expected to see flying monkeys or some other strange sight, but she was disappointed to find standard lab equipment and a wall on the left side of the room showing output from some computer. Her two escorts walked over to the wall, for apparently it was the only thing of consequence in the room. Her eyes scanned it: graphs, tables of data being constantly updated, output from a terminal that hadn’t seen any action since two days prior, a paused game of *Tetris*. Franz saw that last one and made it disappear, laughing it off while eying the professor. The professor ignored him.

“Let’s introduce her to one of the test subjects, Franz,” he commanded. On the display in front of her appeared several profiles of human test subjects. Each profile included fairly standard physiological information about the individuals but also included quite a bit of unexpectedly personal biographical notes. The professor began to narrate. “The first one here is Wilbur Goldsmith. He is thirty-four years old, holds a manufacturing job nearby in which he produces upholstered furniture, is married with two children, and is going to night school to complete his secondary education.”

He gave Franz a nod, and the screen changed to the view of a world map with bright blue dots all over it. The city, on its world scale, was one large mass of blue. The surrounding countryside was spattered with a few blue dots here and there. Bridget thought maybe because of the relative density around where he lived that this must be a heat map of where he had been

recently. Then right away she thought that was a stupid idea because there were in fact blue dots all over the world, just nowhere as dense as around his home. Was it just data pulled from a social network? But then—not that Bridget liked to stereotype—he seemed to be quite the cosmopolitan for a common craftsman. Maybe they all were friends from a game. But he had a *lot* of friends!

The professor had allowed her a few seconds to take in the data and try to rationalize it before he explaining it to her.

“If I were to attempt to fit an explanation of these data into a nutshell, I would tell you simply that this map represents Mr. Goldsmith’s *influence*, perhaps his *impression* on the world, since we started the tests several months ago.”

“So, like his social network?” Bridget suggested.

“It’s a little more concrete than that. You see, these points actually represent trails that his body has made. We are like bloodhounds sniffing out the things and people this man has come into direct contact with or simply the places in which he has been, using the trail his body naturally leaves behind. What is interesting, however, is that those chairs and couches he has made, like the people he has shaken hands with, do not stay in one place; they travel all over the world. In this way, we can see his *influence*.”

Bridget had now become very interested.

“That’s fantastic! I mean, an actual fantasy of mine come true! So how does it work? I mean, I’m sure you don’t have someone following him around and making note of everything he touches.” She smiled at Franz, and he gave a silly smile back.

“It’s the same kind of technology that allows us to cure cancer in humans,” replied Prof. Goodwin.

Bridget considered it for a moment. “Most people have heard how they do that *generally*, but I guess I don’t really understand how the technology works *exactly*. Would you enlighten me, Professor?”

Franz chimed in instead. “You see, Bridget, we can program these these tiny, nano-scale machines like viruses, specifying by way of their molecular structure how they behave when coming into contact with certain other molecules, like proteins. And they have the ability to self-replicate, just like our cells do from their genetic code.”

“DNA,” interjected Bridget, delighted at her own understanding. Franz smiled at her, but she sensed a little condescension in it.

“Yes, and we can even be selective in the kinds of cells it targets,” continued Franz.

Prof. Goodwin then took over. “Right, because you see, Miss Ackerly, these self-replicating nano-“programs”—if you will—require resources that they inevitably have to borrow from the host organism. As you will see, we try to only target the kinds of cells that will be useful to us, so as not to be too much of a burden to the host.”

“I’m guessing cells the person is most likely to shed?” Bridget interjected.

“Precisely. It targets epidermal and epithelial cells,” Prof. Goodwin said plainly.

“But how are you actually collecting the data?” Bridget had listened to Goodwin and Franz using these technical terms and was slightly suspicious that it was all rubbish made up to get grant money.

Franz cut in again. “That’s what I find most interesting and—”

Prof. Goodwin interrupted, “As you might have guessed, this is Franz’s area of expertise, and I have to say he’s rather brilliant at it.”

“Yes, thank you, Professor. Anyway, using the cell for replication isn’t the little machine’s only function, or it would be useless. No, its actual primary function is to read the host cell’s genetic sequence and export it into something we can use. Are you familiar with hashing algorithms?”

Bridget stared at him with a rather annoyed look.

Franz continued with an awkward monosyllabic laugh. “Right, anyway, it’s a way to take a large amount of information and boil it down into a small amount of data that is unique to the original dataset. This little code doesn’t actually contain all the information inside itself, but it is sufficient to uniquely identify the host for our purposes. It produces something like an identification number. In fact, it’s a perfect identification number, unique to that individual. Maybe we should have those on our ID cards instead of an arbitrary number. Am I right?”

She gave him a little courtesy chuckle as a signal to continue, though everyone was aware that she had been growing increasingly uncomfortable. Franz tried to rescue the conversation.

“Okay, so we have the host cell then manufacture a kind of information capsule that will be left behind when the cell decomposes that will actually send faint electromagnetic signals that we can pick up from our stations.”

“Couldn’t you even pick up signals before the cells decompose—while they are still living?” queried Bridget.

“Theoretically, yes.” Franz raised his eyebrows in a manner that said he hadn’t thought of such an idea before, and the Professor assumed a similar expression with less success at

genuineness.

“So can it jump hosts?” Bridget asked.

“Well, yes it can, and that’s really our intended distribution model. That way everyone can benefit from the system.”

“But what if people want to opt-out?” A pot of anger was beginning to boil inside her, but a lid of nervousness kept it from bubbling over right away.

Prof. Goodwin waved the question aside. “That detail will be left up to the organization in charge of its manufacture and distribution. We are only—”

“You can’t release this,” Bridget said bluntly, cutting him off. Disturbing tracks of human history played across her mind’s eye. A chill ran from her toes to the top of her head as she realized the significance of what she had stepped into. She had never consider herself a Luddite—perhaps very fond of antiquity but also appreciative of the comfortable lifestyle her technology gave her—but at this moment she had become truly afraid. “Isn’t that against government regulations on artificial viruses?”

Franz looked at the floor. “We’re hopeful that policy will change soon.”

“This is a bad idea,” she argued, “At least with other sorts of augmentations people can disable them or remove them. This is a ridiculous invasion of privacy.”

“It has the potential for helping in missing persons cases, tracking down criminals, lots of things, Bridget,” Franz offered. “It has a lot of potential for good.”

“And a lot of potential for evil,” retorted Bridget, unwavering.

At that moment, Dr. Goodwin’s head started to transmutate, growing scales and turning a dark red color. Bridget jumped back in terror and let out a scream. Franz did not seem disturbed by the spectacle but nonchalantly blew bubbles out of a wooden tobacco pipe. He was now wearing a tophat and long-tailed coat and raised one eyebrow at her as if to say, “What the devil are you squawking at, girl?”

She turned around and ran out of the room, giant lizard-man Goodwin in pursuit. She stumbled into the hall and braced herself up against the wall to regain her balance before continuing in a headlong sprint down the long fluorescent-lit corridor. No matter how hard she pushed herself, she couldn’t put any distance between herself and the monster.

By the time she reached the floor-to-ceiling glass window at the end of the hallway, she couldn’t stop herself. She dove to the ground, twisting around so she was facing away from the window while curling herself up into a ball to protect her head. The professor tripped over her and went crashing through the glass ahead of her.

He went sailing out the third floor towards the concrete below, but Bridget's momentum also sent her rolling off the edge. In desperation, she reached for the ledge and caught it with one hand, bits of glass cutting her fingers. The blood made it hard to retain her grip, and slipped. She looked up in that instant and her eyes met those of Franz. But she kept falling down, down, while he waved goodbye, holding his bubble-pipe in his other hand.

Bridget awoke with a jolt.

"And don't forget, we are having the quiz on Thursday. We did not skip it. Have a good week everyone."

"Only two more weeks of this stupid class," said the fellow next to her, still looking at his device while slinging a backpack over his shoulder.

"I'm counting down the days."