

Lethal discoveries

A novel by Erica Pensini

Science sans conscience n'est que ruine de l'âme (Science without conscience is nothing but ruin of the soul) – François Rabelais

I have seen the best minds of my generation destroyed by madness – Allen Ginsberg

Born like this

Into this...

...The natural effect of general decay

And there will be the most beautiful silence never heard

Born out of that

The sun still hidden there

Awaiting the next chapter

-Charles Bukowski -

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Disclaimer : This novel is a work of phantasy. All references to institutions, people and places are purely coincidental.

Chapter 1

It was 7 p.m. and the only people around were Brad and I.

I was ready to leave too, half frozen as I was. It was steaming hot outside but I couldn't tell. Winter or summer, the thermostat kept the temperature at a constant of 23 °C in the perfect cosmos of FoodTech labs, the ultimate generation facilities for engineered food.

My goal there was to find a way to foam pudding. Use half the amount of ingredients, find a way to boost the volume and you've got it all: pudding cheap for the consumer and profitable for the industry. For the last three months I had been trying to synthesize a polymer that could do the trick when added to the pudding. Inexpensive pudding for happy people, this is what I was after.

Ok, not exactly. I didn't care about the pudding, the people or the food industry. I just wanted to find the polymer for the sake of it, because it was a challenge, a game if you will. There was no ethics and no real life involved as far as I was concerned: it was just about me, my polymer and my air-conditioned, mint white, neon lit world. You find this squalid? I was hired to make cheap pudding because money is what makes the world go round. I never set these rules, so I chose to forget them. Someone wanted cheap pudding, I wanted the fun of making it for them. You'd call this a win-win deal. Wouldn't you?

Today I had finished producing a new batch of polymer. The jars with the different puddings were nice and ready in the rack waiting for a small dose of my polymer.

"Still not ready to go?", I heard at my back.

That was Brad. Our homes were 5 minutes away one from the other and we carpooled almost every day.

"I want to try this new stuff on the pudding", I said without turning, "Just stay here, will you?"

He came around me, lifted the bottle containing my polymer and looked at it against the light. "Ehm, nervous?", he asked with a smile, "I failed again today. No luck at all lately".

Brad and I were running for the same elusive goal. "Well, what about we give this a try", I said, starting to inject the polymer in the pudding.

"Why not", Brad laughed, "What else should we do on a Friday night?"

Nothing else but try our luck once more, I suppose. And fail, of course.

"Ah, here we go again", I sighted.

Brad and I looked at each other.

He shrugged, "Come on, it's Friday night. Who cares about this crap anyways?"

We both did, and a lot too. But Brad was right, it was time to let go. When the automated doors opened to the outside world a wall of thick moist air wrapped around us, starting to warp the disappointments of the day.

"Brad?", I said, stopping in front of his car

"Yes?", he replied, eyebrows slightly arched and hand on the door handle.

“Can we have dinner somewhere? It would be too depressing to go straight home”.

We ate and drank to our failure, and by the time I got home the polymer seemed a bit less important.

Chapter 2

Once I got home I made some lemonade for myself and sat on the on the chipped steps of my old house’s porch, barefoot, sipping my drink slowly. Traces of the sunset were still streaking the darkening sky, where deep purple clouds floated in the moist summer air. The heat enhanced the odours, filling my nostrils with the smell of pine and cooking lingering around my neighbour’s house. I could hear the kids’ hushed voices followed by laughs, fragmented at first, then loud and uncontrollable. It felt good to be sitting on my porch, taking it all in, slowly. I stood there a while after the house next to mine fell silent, and all I could hear were the cicadas, singing their lullaby somewhere in the night.

After the owners of the house had passed away, their kids had decided to rent out the place for cheap, in exchange for a few renovations. I had done most of them myself during the week-ends, repainting the walls and fixing some windows. I had wanted the house not so much because I could stay there almost free, but because I needed to sleep under a roof drenched with life and history after spending my days in the aseptic atmosphere of FoodTech labs. I had found refuge in work during a difficult moment of my life, using it as a tool to turn away from real problems, to limit my horizons to a model world where things were simple and problems were like the buzz of a fly in the summer, of no consequence at all. I had always been a diligent kid, but after that critical moment in life I became addicted to work in a way that I realized was unhealthy, without really wanting to change it. I had the runner’s high, so to say, and it felt good in some perverse way to keep it up well beyond exhaustion.

And yet in the last months something had shifted slightly within me, although the change was imperceptible from the outside. The hole that had been carved in my existence that winter of 1991 was still there, I could keep it silent for a while but it would wake me up in the middle of the night, now and then, leaving me lonely and disarmed. What I had shyly started to admit in the last months was that I needed more than work therapy in life. I had grown up in a small town where everyone knew everyone else. There were about one hundred households, one bakery that also served as coffee shop, one grocery shop, one tiny theatre and a school, and a large chemical factory that employed almost everybody in the town. I think that I became who I am at least in part to honour my father, who was an engineer in that factory. In 1991 I was 11, and I had moved to NY to live with my grandmother. The change had been huge, neighbours barely acknowledged each other and making friends in the block where I lived seemed impossible. I slowly socialized with some of the kids at school, and after some time I began seeing some of them during the afternoons, every now and then. But overall I became a solitary girl, spending most of my time in the library or doing homework at home. Things could never be again as they had been before NY, and I can say without too much bias that the beginning of my adulthood coincided with the day I moved to the Big Apple.

When I walked back inside the house the darkness felt too thick and a familiar pang of pain grabbed my guts. I turned on the lamps and took a shower. The water started off cold, as usual, but the air was hot and I didn’t really mind. By the time I was done the anxiousness had subsided. I found the book I had left

on the kitchen table and walked to my bedroom upstairs, the stairwell squeaking under my weight. The cicadas were still singing, and a full moon was glowing through the open window. The night felt maternal now, and I fell asleep with my lamp on, the book slipping away from my hands.

Chapter 3

The next morning I woke up with the sun, the dawn spreading its pink and velvety tints across the sky. The block was still asleep and I drank my coffee on the porch in the silence of the morning, broken only by the slow, reiterated whine of my old rocking chair.

There was a lake close to my house where I would swim early in the morning, often before going to work. The water was chilly and it was painful to dip in, but after a few minutes making laps the cold would become almost unnoticeable and after half hour I would emerge from the lake feeling optimistic and pacified with myself. I went back into the house to leave my cup in the kitchen, grab my bathing suit, a towel and the car keys.

When I turned on the ignition Wooster rushed out of my neighbours' backyard, running towards me. Wooster was a black Labrador who made its way to the Wheeler's house as a puppy one year earlier, carried in the arms of their over-excited kids, shortly after I had begun working at FoodTech labs. The Wheeler's had mounted a swinging door on the back, from which Wooster would come and go as it pleased. The town was small, Wooster would never go too far and everyone knew it was the Wheeler's dog anyways. I had brought Wooster to the lake a couple of mornings, and after that it had gotten into the habit of joining me whenever it heard my ignition start at my typical swimming hours.

I drove in the woods with Wooster on the front seat beside me, head tall, scrutinizing every detail on the way as my wonky third or fourth-hand Buick made its way on the unpaved trail. When we reached the lake the colours of the dawn hadn't yet faded and they mirrored on the smooth surface of the water, flickering with reddish-pink reflections.

I laid my clothing on a rock and tested the water with the tip of my foot. Wooster looked at me, waiting for me to go in first. I carefully walked in the lake, holding up my arms to avoid contact with water for as long as I could and finally I plunged in, followed by the dog. Wooster would swim with me for a while only and then find his way back to the shore, shake the water off and sit waiting for me to return.

When I got back home I found a brown paper bag in front of my door, accompanied by a good morning note written in stylized print. Unmistakably Jack's. The muffins in the bag felt warm and their smell made me salivate. I walked inside with my muffins, smiling. Jack had moved to California after working in all sort of trades across the States and finally decided to settle there few years earlier, after opening a small bakery. He had started off by working alone 7/7 for ten hours a day, but when the business had begun to thrive he hired a local boy to help him out with the shop.

Back then I couldn't tell for sure what was the nature of Jack's feelings for me, but I knew he liked me and he did for me things he didn't do for the other people in the town. By the time I showered and had breakfast the sun was high in the sky and the air was turning hot. Suddenly I missed the ocean, driving along the coast with the car windows rolled down and eating in one of those restaurants by the beach. I

thought I'd go find Jack and ask him to join. I drove to his flat at a leisurely speed, taking the time to observe what was along my way, the trees, the trimmed gardens, that old lady with her dog and that man talking to himself as he read the news.

Jack's flat was one storey above the bakery and could be accessed from the back of the building through fire stairs, which I used as if they were the regular ones when I wanted to see him. When Jack opened the door and saw me he smiled, looking as if he had been expecting the visit, and asked me if I had liked the muffins. I said I did, and then we both fell silent for a moment. Neither of us was a fast talker. When I asked him to come with me for a day on the ocean shore he looked at me strangely. Which beach did I want to go to, he asked me. Any beach, I said. He wanted to know if I would you mind spending a day fixing a boat. For a friend who needed a hand, he added. The idea of restoring old relics always pleased me, and when I said so Jack smiled, I think more at the way I phrased my thoughts than at the concept itself.

"Just give me a moment to put on a shirt and I'll be back", he told me, before disappearing into the house.

For some reason he didn't let me in that day, so I waited beside his truck and a few minutes later we were heading to the highway, making our way to Mission beach.

Chapter 4

We drove for a long while enjoying each other's presence and the endless blue of the sky, without saying a word, just smiling at each other every now and then. Then we reached a semi-arid stretch of land, burnt dry by the sun of California, and seeing the thirsty earth I began to long for a drink myself. When I saw a gas station that sold ice and pops I signalled Jack to stop.

"So, who is this friend you told me about?", I asked him as we got back on the road.

He told me I needed to have some patience and looked at me like someone who has in store a surprise prepared for months and does not want to spoil it. Jack was not one to reveal himself easily, and I didn't know much about his past life. He communicated with greater ease when his hands were busy, and most of what I had learned about him was from comments he had dropped casually as we were working together, fixing some broken part of my house or baking. I had been behind the scenes at his store several times, and I remember thinking that there was more science in what he did in his bakery than in what I did in the lab, and more simple and honest joy too. But even then whichever information he released was brief and enigmatic, not because he deliberately wanted to keep things from me but because of his reserved nature. He was not the type who liked to be at the center of the scene, and was better at listening than at talking. I wasn't a great talker myself, but when I got started I could go on for quite a bit, drilling into the details of what I wanted to say till I felt I got my story straight. So Jack had learned more facts about my life than I had about his, although I think I knew him as well as I knew me. I tend to sense people, and I don't really need facts to tell who they are.

When we were close to Mission beach we turned into a residential road and stopped in front of a house with a low white fence and a wealth of florid plants covering the whole yard with the exception of a

white pebbled walkway leading to the door. There were wind chimes hanging all over the porch, where three plump cats lay on large cushioned chairs and a chaise longue, lazily looking at us with eyes half closed as we rang the bell.

A man opened the door, and when he saw Jack he laughed, and took his hand bringing him close to his chest at the same time, patting him hard on the shoulder as they hugged.

“Come on in lad, come on in”, he said and then, looking at me, “I see you’ve brought a nice lady with you”.

I smiled politely, introducing myself. The man’s name was Fred. Fred was no longer young when I met him but he had a solid frame and lively manners, and his dark blue eyes were inquisitive and warm at once.

The wallpaper and the furniture in the house were pastel colours and I could tell that there was a woman living with this man. Books were all over, and there was a thick stack of them on the coffee table in the living room.

I looked at the titles and while I was trying to create a mental profile of the Fred’s interests he told me, “I study marine biology. Theoretically I am a retired professor, but I still show up in my old labs a couple times a week”.

He laughed and added, “I can’t let go”. I told him he had no reason to. I wondered how Jack had met this man but it seemed out of place to ask at that moment, so I kept my curiosity to myself.

It was almost lunch time and Fred proposed to fix us something to eat, simple sandwiches, he said apologetically addressing me more than Jack, since his lady was away and he wasn’t much of a cook. Then Jack excused himself to the bathroom and I was left standing in the kitchen as Fred sliced the bread, strangely caught between the embarrassment of letting him do the work while I watched him and having to ask him what I could do to help. Fred must have sensed my state of mind, because he turned around and told me that all he needed from me was that I sit down and help myself with a drink from the fridge.

“Have you know Jack from long?”, he asked after a moment, and I was surprised at the question.

He listened to my answer and then said, almost talking to himself, that it was time Jack found a girl. At that moment I had the distinct feeling that something had happened to Jack in the past, and that Fred had been there to witness it. I returned the question I had been asked when Jack walked in. Fred looked at Jack with complicity and said, placing a hand on his shoulder, that they had known each other for quite a bit.

Chapter 5

After lunch we loaded the tools and the paint on Jack’s truck and we headed to the shack where Fred kept his sailboat. I felt there was a tension in the air, something unsaid, and Jack’s silence felt different from usual. The boat was covered with a dark plastic sheet, which was cracked here and there and was caked with sand and dust as if it hadn’t been touched for a long while. Jack stood there, holding the

bucket of paint, looking at it. I caught Fred leaning on the door of the truck with the toolbox in his hands, observing Jack from a distance. I approached Jack and when I spoke to ask him if it was long since the boat had been used he started, as if he had forgotten that someone else was there. It would have been two years in a month and a half, he replied, and the way the answer had been phrased, the accuracy of it, surprised me and I was sure there was something with this boat only Fred and Jack knew. I nodded, and waited for Jack to decide what to do next. He seemed confused though, and in the uncertainty he kept where he was, with the bucket in his hands, until Fred touched his shoulder from the back and said, "Come on lad, let's get started".

When Fred removed the cover I noticed that the tree was cracked and that some of the wood on the keel was also damaged. We worked till dusk patching the wood, and by the time we finished putting fresh paint on the boat I was so hungry my stomach hurt and my back was sour from being bent for hours. I let myself lie on the sand, still warm from the day's sun, and rapidly slipped in the limbo between sleep and wake, losing track of time, while Jack and Fred reloaded the truck. It must have been just a few minutes later when Jack kneeled beside me and gently touched my back, whispering that it was time to go.

"I don't want to", I said, "just let me stay a bit longer".

Jack laughed, and began lifting my arm. I was still sleepy as the car made its way back to Fred's house, and I could feel the dirt sticking on the sweat that had turned dry and cold. Fred looked at me from the rear mirror.

"Maybe you guys should just spend the night here and head back tomorrow morning", he said.

Jack turned around and I smiled, trying to look very much awake. He shook his head laughing and said we would probably accept the offer.

When we got home Fred's wife was there, and the house was filled with a smell of roasted mushrooms that made me salivate as soon as we opened the door.

"Ah, it was about time!", she yelled from the kitchen when she heard the door open.

She hugged Jack and then studied me briefly, before tending me her chubby hand and smiling maternally.

"You must be hungry", she told us and was pleased by my answer when I replied I was starving.

She let us wash rapidly before hurrying us to the table, which she had set up so that it was a pleasure to the eye, with the food beautifully arranged, the flowery tablecloth and the artsy dishes. The shower and the food did me good, and brushed off the weariness of the day. Anita was a small, rounded lady, whose chatter compensated the minimalistic style of the conversation her husband, Jack and I used to have when she was not around. She was younger than Fred and was still working as a Spanish and French teacher, as she told me, before asking me what I was doing in life. I intended my answer to be brief, but ended up going into much detail. For some reason Fred was intrigued by what I did, and started asking questions when his wife's attention had begun sliding away.

Jack listened without speaking, but at the end he said, "So, this is what you do".

I had never told him much about it because I didn't believe it mattered to him. When I said so he asked why, looking hurt.

After dinner we sat in the living room, chatting for a while longer, while the cats cuddled one on Anita's lap, the other on the back of the easy chair where she was sitting. But soon I began feeling dizzy, and I was relieved when Fred said that he would call it a day and head to bed. There was only one guest room in the house and I shared the bed with Jack. We had never shared a bed before, but that night I was too tired to wonder if it was a strange thing to do so.

Before falling asleep I asked, "Why were you offended before?"

"Offended?"

"Offended that I said I didn't think you cared to know the details about my job", I explained, although I was sure he knew what I was referring to.

"Fred was my PhD advisor, you know? But why don't we just go to sleep now, it's been a long day", he said.

I was suddenly awake, but I knew that Jack needed time before he could tell me more.

"Good night Jack", I told him, and fell asleep shortly after, feeling so very happy to be there.

Chapter 6

When I opened my eyes Jack was looking outside, leaning on the windowsill. I observed him for a moment, still not fully awake from my dreamlessly placid night, and then I pulled myself halfway up, resting on my elbows. Jack turned around and we smiled at each other for a moment.

"Slept well?", he asked me.

So well, I replied, that I had no clue of what time it was. Jack found his watch on the drawer, it was almost 7. I wondered if Fred and his wife were up already and if we should start getting ready or if we should stay in the room a bit longer, waiting for them to start their daily routine before moving around the house and making noises. I had a habit of waking up early and never lingering in bed, but at that moment there was a peace within me that I hadn't felt in a long time, and I was reluctant to leave the room.

Jack turned to the window again. I was resting my head on the pillow and I had closed my eyes, when Jack began talking.

"I had just graduated but I was still working with Fred. We were collecting sediment samples for Lisa's thesis. She was in her third year, and I was helping out with her project. She was Fred's student too. Fred used to laugh about how his lab was better at producing couples than research, and how this would happen over and over again to his students. Getting together like Lisa and myself, I mean. I didn't notice there was something wrong at first, we were browsing different areas of the seabed. And when I did notice, it was too late. The oxygen cylinder was faulty, she started swimming back up too fast".

He said all this talking slowly but continuously, with a controlled voice.

“How was she like?”, I asked.

I know there is a comfort in recounting memories, in the possibility of having someone you’ve loved relive through a shared recollection.

“She was like you, as I first saw you the first time I met you. After knowing you better I learned that there is a melancholic side to you that she did not have”, Jack said.

I understood then what had driven Jack’s initial closeness to me, before knowing anything about me. It is strange how whatever one loved or hated first ends up by marking that person’s life so deeply, leading to new relationships that are somehow linked to the past. Nobody can ever escape the past, we carry it within us no matter how hard we try to leave it behind.

“What about the boat?”, I asked.

“Fred had been there on the boat waiting for us to come back with the samples, and he had tried to intervene when he realized what was happening...but when they pulled her up it was too late.

Jack had spoken giving me the back, but now he rubbed a hand across his face, turned around and said, “There goes Fred watering the lawn”.

He walked around the bed and gave me the hand.

“What about leaving the bed?”, he said with a smile shaded by sadness, pulling me up.

Chapter 7

When I walked to the kitchen Jack was already sitting at the table, chatting with Fred, and Anita was fixing our breakfast. Jam was on the table, and the room was filled with the smell of coffee and toasted bread. I thought that it must feel good to live this way, waking up every morning on a shared breakfast in a paid-off house just minutes away from the beach. My life seemed miles away from those standards, and I wondered what it would become many years from now, when I reached Anita’s age.

Anita saw me standing on the corner, and invited me to the table. “Did you sleep well?”, she asked.

When I told her I found the atmosphere of their place soothing Fred smiled, “I’ll have to go check few things in the lab, but if you guys are willing to stay a bit longer we can bring the boat for a stroll”, he proposed.

I would have wanted to accept the invitation, but Jack spoke before I did.

“Maybe another time, I think we should be heading back after breakfast”, he said. He looked down for a moment before adding, “We’ll be back”, and I was surprised that he had counted me in as if it was natural that when he was to come back I would be there too.

When we hit the road I felt the lightness that takes over after a long holiday, when one is hung up in between realities, suspended between the usual routine and the atmosphere of the vacation. The perception of my body was odd too, as if I was thin and floating. I let Jack drive and I indulged myself in the blurred lines of my sensations, watching the landscape race by.

By the time we reached my house I had fallen in a state in between wake and sleep, and I was surprised when the car came to a halt. When Jack turned around and thanked me I felt there was something else he wanted to add, and we stood there lingering in the moment a while longer. But then he just thanked me again and I walked to my door, waving at him before disappearing into my old house.

Chapter 8

I was sitting on the porch with a lemonade and a book when the phone rang. I reluctantly got up to my feet to answer it and when I picked up the receiver I heard Christine's voice on the other end. She was one of the few friends I had made in New York, where she still lived when she was not roaming somewhere around the world. I had met Christine in high school. She had then become a journalist working her way up from small magazines all the way to the Times. She aimed high and she got it, being good at what she did, but her 13 hours working days and her continuous travels had made her personal life a mess. In spite of the distance I think I was one of the major certainties in Christine's life, the same way she was in mine, which was, in a different way, just as messy as Christine's. It was good to hear her voice. She asked me how I was and asked me to go see her. Then she spoke about her next trip. But all along I felt that she had something in store and from her tone I anticipated what she was up to.

When I told her she laughed. "I am so much in love. But this time I really want to be careful, I want to understand if we are really meant for each other. Experiences teach, right?"

I had heard this before and couldn't help smiling, "I wouldn't love you so much if you weren't crazy", I told her.

We spoke for a long while about this new man, who was supposedly wonderful and different from all the others.

The phone call changed my mood, and by the time I hang up I was itching for some movement. I would have wanted to go for a swim or a walk, but for some reason my body felt weak. I realized I was very hungry although it was only 5 pm and my lunch had been quite abundant. I made myself a sandwich and nibbled it while playing with Wooster, who had come to greet me carrying a ball in his mouth after coming back from a walk with the Wheeler's kids.

My thoughts were as remote as they could be from FoodTech labs when the phone rang again. This time it was Brad. Could we go to work earlier than usual the next day, he asked, and I said yes.

"I want to pin this polymer business down", he told me.

The week-end had brushed away the frustration, and the idea of trying something new, first thing in morning, energized me. My hopes were high again, and I fell into sleep planning the next day and rolling ideas in my mind.

Chapter 9

On Monday morning the highway was almost empty and the drive felt good. The building in which Foodtech labs were encased sparkled in the morning sun, the blue of the glass bright against the cloudless summer sky.

We scanned our passes at the entrance and signed in. We scanned our passes to use the elevator and then again, before entering the labs.

“I want to test something else. I’ve come up with few thoughts yesterday night, but I am not sure how to put them in practice”, I said. “What about we try them together?”, I proposed.

“Sure, I have some ideas too and I have the same problem”, said Brad. We were a good team.

Alice showed up early too that morning. “What are you guys doing here at 7 am”, she teased, leaning on Brad shoulders and mine.

“We couldn’t wait to see you and we got up before sunrise”, Brad replied, winking.

“Oh yeah, you bet!”, Alice laughed.

“Are you up for lunch?”, I asked her.

“I thought the boss would order pizza for everyone today, no?”, Alice wondered.

“True true...I almost forgot”, I said remembering the boss had decided to organize a “pizza social”, as she called it.

“See you guys then”, said Alice, squeezing our shoulders, “I don’t feel like working but I suppose I should. My cell cultures are waiting for me”.

“So, what’s next?”, asked Brad after Alice had left.

“Let’s go get the precursors and then I’ll tell you”, I said, walking to the fridge.

Something had leaked out. “What is this?”, I said, opening the door and turning speechless.

“Holy smokes!”, Brad almost yelled, “Are these your samples from Friday?”.

The volume of the puddings in which I had added the polymer had swollen by at least ten times, popping the caps open and melting in a multi-coloured foam, which now slowly poured from the bottom shelf.

“It worked!”, I yelled in reply, incredulous. “What do you think the pudding will taste like now?”, I asked.

“No clue...”, he replied.

We looked at each other for a moment. “Ok, it’s against the rules, but...”, I said, taking my gloves off. Brad took his gloves off too. There were cameras everywhere, but not in this room. I dipped my finger in the vanilla pudding, while Brad went for the chocolate pudding. The pudding had a vague acidic back taste, but that was no matter – in this industry adding more sugar is never a big deal if you can save on all the rest.

“Why don’t we use the confocal microscope to look at the 3D structure”, Brad suggested.

“That’s what I was thinking too”, I said, taking the vanilla pudding and wiping off the jar the foam around it.

I spread a thin layer of vanilla pudding in the microscope cell and waited for the computer to start. When the software finally opened and we could get an image what we saw was stunning. There were spherical shapes all over, which had not been there earlier. And there were holes, arranged to form identical patterns at different scales.

“Fractal structures. I never saw anything like this”, said Brad, eyes fixed on the screen. Then he looked at the image more closely. “But look, even where there are no voids the material seems changed”, he told me.

I approached my face to the screen. “Yeah...you are right”, I whispered.

“Let’s increase the magnification”, Brad said, as he operated the microscope.

There were tiny dots, we couldn’t really tell what we were looking at but we knew for sure that those dots weren’t there before.

“Something is telling me that these polymers are doing something more than repelling the pudding around them”, said Brad. “You think they have changed the bonds between the pudding molecules?”, I asked.

“I can’t tell yet, we have to do some infrared spectroscopy to know”, Brad replied, “But hey Iris, you are a genius!”.

“I am! But I am a genius with no idea of what is happening”, I laughed.

Chapter 10

The infrared spectroscope was in another part of the building, connected to our department through a glass corridor from which we could see the parking lot. Dr. Mc Murrich was stepping out of her car just then. High heels, black suit, died hair tied back tight, she was impeccable as usual. Mc Murrich was the director of our research division at FoodTech labs. She was the one who would buy us pizza today, for the social lunch. She had been a top notch researcher back then, before becoming a manager. She didn’t have the appearance of a researcher anymore, but that is perhaps inevitable if you climb up the food chain. Mc Murrich was good at doing what she did, we could tell because we always had money to play our games in the lab. We produced the work and she sold it for big bucks to international brands in the food industry, so that they could make even bigger bucks. We all had our share of joy. You’d call this a win-win deal. Wouldn’t you?

“She’ll be excited, what do you say?”, I said.

“You bet she will, this is the breakthrough of the century”, Brad replied.

Brad had a large lanky frame, longish hair and big black-rimmed glasses screening his blue gaze, usually somewhat absent. But now his eyes were electrified as he looked at the jars. We began scanning a

sample of pudding with no polymer in it and the spectrum appeared on the screen, with peaks and valleys, each one the signature for a chemical bond. All expected bonds were there.

“Ok, no surprises so far”, I said, “and now let’s have a look at what Mr. Polymer did to the pudding”.

Brad and I sat close to the screen as the spectrum appeared.

“What are these peak here?”, I said.

“I don’t know”, Brad replied. “And look, the peak that was here before is gone now”, he said pointing at the screen, “It’s amazing that the polymer could break chemical bonds and form new ones”.

“Well, we should use some other techniques here. There’s too much guessing involved in reading this spectrum”, I said.

“We should try to get Mike to have a look at this first”, Brad told me.

Rough manners, long nails and beard, same thick sweater and spectacles worn year-round, strong body smell: that was Mike, the spectroscopy guru. Mike was the most senior member in our team, and we all liked him. Mike’s shell was ugly, but he knew his business and he’d share his knowledge generously if you brushed him the right way.

When we knocked on Mike’s door it took him a few minutes to answer. “Yes”, we heard at last.

“Mike, it’s Iris and Brad, do you have a moment?”, I said through the door.

No reply for a minute. Then the door opened, and Mike’s displeased face appeared. He walked back to his desk and brought his face close to the screen, without saying anything. Brad and I looked at each other. Not a good day, we thought.

“Mike”, I began, “we saw something very interesting today. I mean, *very interesting*”.

Mike turned around slowly.

“Iris added a polymer to the pudding and it swelled by at least ten times”, explained Brad. “The structure we saw under the microscopy was completely different from the original one. We went to look at the infrared spectrum of the pudding and it’s not the same anymore, the chemical bonding seems to be affected by the polymer”.

“Changes in the chemical bonding don’t happen just because you add a polymer in the food”, Mike said drily.

“That’s what we think too, but we cannot understand the spectrum”, I said, in an attempt to get around Mike’s bad temper.

“I can have a look at the spectrum”, Mike conceded at last “but I am swamped. Mc Murrich asked me to summarize the work we have done in the lab in the last ten years, so she can talk about it in one of her conferences”.

So that was it. Mike hated the industrial conferences where Mc Murrich advertised the golden standards of our labs.

“The empty nonsense of industrial politics”, Mike grumbled angrily between his teeth, walking with Brad and me to the infrared spectroscopy room.

He dragged a chair close to the computer. The spectra were on the screen, one beside the other. Mike looked at them in silence, rubbing his chin. We stood still behind him, waiting for his oracle.

“I don’t understand this”, Mike said after a long while.

Brad and I looked at each other in disbelief. If Mike didn’t know, nobody else would.

Mike kept looking at the screen, and now his nose was almost touching it. “The bonds between the carbon atoms have changed”, he started, “But something happened to the nitrogen too. Based on this spectrum one would say that the proteins in the pudding aren’t the same anymore, as if they have been broken down in some way”.

“I tell you, the pudding looked very strange under the microscope”, Brad reiterated

“This is incredible”, said Mike shaking his head, almost talking to himself, “So what is the structure of your polymer?”.

“I started off with a standard azo compound, polymerized it with hydrocarbon and organofluorine compounds to get longer chains and then cross-linked them at 40degC. I wasn’t sure what I was doing and what I would get, I didn’t expect this at all”.

“Ehm...”, Mike hummed, “we should run some nuclear magnetic resonance tests on the samples”.

“But we can’t do nuclear magnetic resonance here”, I said.

“They have it at the research center for cancer. Remember we were there some time ago?”, Brad reminded me.

Brad and I had been there a couple years earlier to use their electron transmission microscope, but there hadn’t been much collaboration going on with their research center after that.

“I have a friend working there. I’ll give him a call a see what he can do for us”, Mike told us. Then, looking at his watch, “I’ll try to catch him later, he’s probably gone for lunch now”.

That reminded me of the social lunch. It had slipped my mind completely, what we were seeing was much too intriguing for me to care about something else now.

“I suppose we are due for lunch...”, I snorted.

Brad shrugged, “I suppose so”.

“Enjoy”, said Mike ironically, “and come see me after lunch”.

Chapter 11

Brad and I were standing in a corner talking on our pizza slices when Mc Murrich approached us.

“How are you guys doing here?”, she asked, “You seem to be having a pretty intense conversation”.

Brad and I looked at each other.

“Well, one of the polymers we synthesized the other day seems to work well”, I began, “Very well in fact. The volume of the pudding increased by about ten times”.

Mc Murrich arched her brows.

“Ten times?”, she asked, looking vaguely skeptical.

“Yes”, Brad confirmed, “we were surprised too, but that’s what we got. We can’t understand what happened though”.

Mc Murrich was intrigued, I could tell she was even if she never conveyed too many emotions.

“Why didn’t you tell me about this earlier?”, she asked frowning.

Then she smiled her professional smile, “You should have, this is great news”.

“So you are trying to understand what happened?” she asked after a pause, and then, without waiting for an answer, “Come see me in the next days and tell me what you find”.

We finished the pizza and went straight to Mike’s office. His friend at the cancer research center offered to see us that same afternoon.

“Sandeep is a great guy, you are in good hands with him”, Mike told us, “I hope you’ll find your answers. This case is fascinating”.

Mike’s face had brightened as he spoke, but it abruptly turned gruff like it had been when we knocked on his door in the morning.

“I need to work on the review now, I am swamped with this nonsense”, he complained shaking his head.

Brad and I thanked him and promised to come back with whichever new discoveries we would have.

Chapter 12

I had picked Brad up in the morning, so we went to the cross cancer institute using my old Buick. There was no AC in my car, and we drove through the summer heat with the windows down and the breeze blowing on our faces. I felt as if I was taking a holiday, driving out on a Monday in the middle of the day. I loved the feeling, it seemed to me as if I had the freedom to drive back home anytime, and that I had chosen to go and analyze the samples for leisure.

But when I entered the cross cancer institute the cheerfulness froze on me like cold sweat after a bad dream. It wasn’t the appearance of the place as much as what I knew happened in there. In the elevator there was a woman on a wheelchair, so thin she looked like she could break anytime. I tried to focus on the numbers lighting up as we moved from one floor to the next. When we reached the fifth floor I had to squeeze past the wheelchair to get out, and I felt guilty without knowing why.

When I stepped out I stood staring at the signs directing to the different rooms, without really reading them.

“This way”, I heard Brad saying, and I followed him to Sandeep’s lab.

When the guy came to open the door for us I slipped back in my role, and became aware of the polymer samples I was carrying.

Sandeep was a trim guy with courteous manners and a mild Indian accent. I could see why Mike liked him. He didn’t speak more than necessary and seemed to dose every gest, limiting all he did to what was strictly functional to his purposes.

The machine we needed was in a separate room, divided from the main lab by a glass door. I had never seen a nuclear magnetic resonance device this size before. To place the sample in the chamber Sandeep climbed on a stair, while Brad and I looked at him from below, fascinated.

“The analysis will take a while to run”, he told us after starting the machine, “if you have time to come back tomorrow afternoon we can discuss the results then”.

I was disappointed to leave, I would have preferred to sit there, one, two, three hours, whatever it took to know what had happened to the pudding and then go home happily owning my piece of information. When I told Brad he laughed, and said that he had a better idea.

“Do you have more polymer?”, he asked me.

I said I had plenty.

“Well, since this worked so well on the pudding we should see what it does to other foods”, he proposed, “Pull up at the next grocery shop, there’s one few blocks from here. Let’s get a bunch of food types and see what it does to them, just for fun”.

I hadn’t thought about it, and the idea thrilled me. To us this was a game and we wanted to score on at least another three items. We picked yoghurt, ice-cream and tomato sauce. Tomato sauce was my idea. Brad was skeptical about it.

“You’re asking too much”, he told me, “tomato sauce has to be heated and at that point your polymers will change completely. People will buy a liter of sauce and will end up with nothing after they warm it up for their meal”.

I insisted that it was worth trying and we bet a pasta dish, seasoned with tomato sauce.

Our mood had turned light and happy after leaving the cancer institute behind, and after setting up all our samples with the polymer we left earlier than usual. There was nothing else we could do other than give the polymer time and hope it would do some more magic.

Chapter 13

After dropping Brad off I didn’t drive home directly. I stopped by the grocery shop to get myself some food at the deli counter and drove to the lake. I had my dinner looking at the reflections in the water, with the moon and the sun simultaneously suspended in the brightness of the sky. I wanted to stay there until the sunset, but it was still early. I wished I had Wooster with me, time would have passed by easily throwing rocks in the lake for him to fetch. I hadn’t thought about bathing when I got there and I

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