

"May I ask how?"

"First, I had a meeting with my boss, the VP of finance. Then he dragged me with him to tell it to the president. I explained the bottom line impact of shortening our project lead time. That trivial stuff you talked about. They took to it like fish to water. No problem."

I can't believe my ears. Such a thing coming from Roger? It's hard for me to grasp. I considered Roger my most nasty, bitchy, cynical student, and the last one I expected to take initiative. Nasty and bitchy he is, but he sure can move.

"By the way," I hear him say, "next week I have important meetings with three more vendors. Is it possible for you to join in? Soften them up a little for me, you know?"

I'm wondering how to answer, when he continues.

"Of course, I can't ask you to do it for free. Will five hundred dollars a meeting do?"

"Only if you prepare a presentation for the class on how to negotiate shorter lead times with vendors."

At last I reached him. He makes faces, but I'm firm.

In the car, it dawns on me. That's fifteen hundred dollars. Judith will love another weekend in the Big Apple.

Chapter 19

Mark, Ruth and Fred update Isaac Levy. He wants to go over the details. It doesn't take long; the project is not far from completion. The project buffer is still nine weeks. The remaining feeding buffers also look healthy.

"Looking good," Isaac says when they finish. "Almost too good to be true. I must say that at the beginning I was quite skeptical, but you can't argue with the results."

"We are going to deliver two months ahead of time and without compromising on any of the original specs," Mark is confident.

Levy smiles.

"As far as I'm concerned, it's a world record," Mark concludes.

Still smiling, Isaac asks, "What is the chance of a piece of bread falling with the butter-side down?"

"Fifty percent," Fred answers.

"In this place it's closer to one hundred," Mark corrects him.

"You are too optimistic," Isaac says. "The chance of a piece of

bread falling with the butter facing down . . . is directly proportional to the price of the carpet."

They are all in a good mood, so it takes some time before they stop laughing.

"You haven't finished yet," Levy reminds them. "The final tests on the modem just started. Anything can still happen."

"So I shouldn't have started the wheels rolling in marketing?" Ruth is not sure anymore.

Levy thinks about it.

"We can't afford to surprise them," Ruth tries to persuade him. "If we do, all the gain we make here will be wasted there."

"You are right," Levy says.

"So what do you think?" Mark pushes Levy. "Suppose that the final tests do not reveal anything catastrophic, do you think we made it?"

Isaac looks at the three of them. They are quiet, waiting for his verdict. "Let's straighten things up," he says. "Even if the final tests reveal some bad news, it has nothing to do with what you three have done. We were looking for a way to significantly shrink the development time and you pointed out such a way. But . . ."

He pauses for a few seconds to organize his thoughts. The three do not dare to even blink.

"But, there is still a lot to do until the way is clear. Right now I have more questions than you have answers. We are only at the beginning."

He tries to give them an example of what he means. "When you started to implement this radical method, the A226 was in the final stages. Not that I'm trying to put down what you did, you have done a wonderful job. But I would like to see how your method works on a full project. From start to finish."

"I don't see much difference," Marks argues.

"You may be right, but until we try it, we don't know. Besides," Isaac adds, "don't you think it would be interesting to find out by how much your method can shorten the development time?"

They do not answer.

"There is another thing that troubles me," he says. "I see how you made it work with one project, but I don't clearly see how it will work with many. Our projects interact with each other, you know."

"I know," Mark murmurs. Then, gathering his courage, he looks into Isaac's eyes and says, "There will always be some loose ends."

When Isaac doesn't answer, Ruth adds, "When are we going back to our regular jobs?"

Isaac turns to Fred, "Do you have a question as well?"

"Yes," he says. "We were promised that if we succeeded we would get ten thousand shares each. What are the criteria for our success?"

"Ten thousand shares each is a lot of money," Isaac answers. "Do you think that you earned it?"

They don't answer. He continues. "Are you willing to gamble that your method works? Always? In how many cases have we checked it? From start to finish, not even once. If you were developing a modem, would you accept it as a final product? At the stage that we are now it's only a promising prototype. Don't ask me what the criteria are. You know. You know when something can be declared good enough."

"I think we would like to have a more tangible target," Ruth says quietly. "I know I would."

"I cannot commit to any numbers, but I can tell you that when it's clear that your method is going to become the norm in our company, you have definitely delivered. Is that good enough for you?"

"It's good enough," Mark says firmly. He looks at the others. They nod.

"You said there are no budget limitations," Fred reminds Isaac. "Can we hire the help of our professor? I don't think it's fair to continue to use Professor Silver's kindness, and we need more of his time."

"Sure, good idea. Offer him the standard consulting fee, a

thousand dollars per day. Does three days a month sound about right?"

"Will do," Mark answers for the three of them.

"Anything else you need, think tank? Fine. Keep up the good job and continue to keep me posted."

Mark's phone call has me feeling giddy. Laughing, I head downtown. I'll find Judith a real Valentine's Day present in the jewelry store. Tonight, for once, my wife will get a gift she deserves. Finally.

Well, easier said than done. I don't know much about jewelry, and the saleswoman in the store isn't much help, although she tries. She even models the jewelry for me. But Judith has thick golden hair, high cheekbones and a beautiful long neck, and this lady . . .

I think I've seen every piece of jewelry in the store at least four times. Finally, still hesitant, I make my decision. Just to be on the safe side, I also go and buy a box of the fanciest chocolates I can find.

After Judith and I finish dinner, we go into the living room. That's when I give her present to her. Not the chocolate, the earrings.

She doesn't have to tell me how much she likes them. Her blue eyes tell it all. They glitter now, like the aquamarines that dangle from her ears. She truly loves them.

When we sit down, I start to tell her about the consulting job with Genemodem.

"Another three thousand dollars a month," Judith jumps to her feet. "Darling, that's a fortune."

My ears prevent my smile from becoming even broader.

"I told you that you'll manage." Judith starts to dance around. "I told you that if the university doesn't have the sense to appreciate you, others will."

I sink deeper into the couch. "Yes, you did," I admit.

"How much do you make now from consulting? More than from teaching?" She closes her eyes and starts to slowly turn around and around with her arms spread out. "And next year, when more companies find out about my brilliant husband, we'll have nothing to worry about."

I wish she were right.

She takes one look at me and stops spinning. "Darling, I'm sorry. I know how much you love teaching, but only last month you told me that consulting is a form of teaching. Isn't it?"

"Depends on how one does it."

"The way you do?"

"I think I can be happy with this type of work, but . . ."

She sits down next to me. "What's the problem, darling?"

"Next year I'll be out of the university," I start to explain. "I won't have corporate managers as students. And on my own, I'll never succeed in getting any consulting contracts. Please Judith, let's not fool ourselves, I don't have what it takes to sell myself. I can try, but, let's face it, what's happening now is not the beginning of a successful consulting business."

She takes both my hands. "We'll see. I have more faith in you than you have." Then she adds, "In the meantime we are rich."

"I wouldn't say that," I laugh. "But, I agree, an additional three thousand dollars a month can make a huge difference in our life. It will make a real dent in our pile of debts."

"And that will make a huge difference in our life?" Judith asks softly.

It takes me awhile to realize how insightful her question is. She is right. It won't really make any difference. I know I will find something for next year. Nothing spectacular, but I'll make a living. Reducing our debts would be nice, but it won't make a huge difference. Certainly not huge; maybe not even significant.

"What are you suggesting we do?" I ask.

"How long will your work with Genemodem last?"

"Four months, maybe six. By then they won't need me anymore," I answer, giving her my best evaluation.

She takes her time, choosing her words carefully. "Rick, for the last thirteen years we have had to count every penny."

"We should have," I tease her.

"Maybe, for the rest of our lives we'll have to do the same."

"I'm afraid so," I say bitterly. "There is no point in dreaming about an academic chair. Not anymore."

"It's okay, darling." She looks deeply into my eyes. "I mean it." After a pause, she continues, "Rick, can't we, for once in our lives, feel that we have enough? For six months? Even for four months."

I try to digest what she is saying. She wants us to spend it all.

It's crazy. It's crazy, but it makes sense.

"Think about it as an investment," she says. "We will invest the money in what is most valuable. Good memories. Good, lasting memories."

I think about it. Judith doesn't press me. She just sits there, staring at the fireplace. The more I think about it, the more sense it makes.

Finally, I agree. "As the money comes, it will go."

She smiles at me. Proudly. And I know I have made the right decision.

"We are going to have the best winter and spring of our lives," I promise her. "Easter in the Bahamas. No, a cruise." She starts laughing. "Better still," I say, "I'll leave it up to you. You do the planning."

Miriam is not at her desk. I poke my head into Jim's office. "Jim, I'm stuck and I need your help."

"What is it?"

I interpret that as an invitation and walk in, closing the door behind me.

He puts his pen down and leans back in his chair. "There is one bad thing about teaching. You have to go over the homework assignments you give them."

"Give it to your Ph.D. students. Why lean on them less than you used to lean on me?"

"I wish I could," he sighs. "But you see, because of Johnny's ideas, I changed so much of my systems course that my Ph.D. students are as new to this material as the undergrads. But, enough crying on your shoulders. What do you want?"

"To cry on your shoulders," I smile. And then, more seriously, "I have a problem. I don't know what to do in a case where several projects are done by the same pool of people and one of the skills is a bottleneck."

"Rick, since when are you interested in such theoretical cases?"

"That's the problem," I sigh. "It isn't theoretical. That's what I'm actually facing in Genemodem. Several projects, and digital processing, which is involved in all of them, is a bottleneck."

"So, why don't you go about it systematically? First step: 'Identify the constraint.' Is there a problem finding the bottleneck in your case?"

"Suppose not. But why do you decide that the bottleneck is the constraint?"

Jim uses the words 'constraint' and 'bottleneck' synonymously. No wonder his response is, "I don't get you."

"We are talking about projects. In a project the constraint is the critical path."

"Hmm. The bottleneck is a constraint for sure, but you're right, so is the critical path. What are we supposed to do in the case of two constraints?"

"More than two," I say. "Each one of the projects has its own critical path."

I can almost hear the wheels turning in Jim's head. Many constraints . . . Can we deal with each project in isolation? No. Because if we do that, we'll be forced to ignore the bottleneck, and that's wrong. "Rick, I don't know. I don't know even where to start thinking about such a problem."

"Me, neither, and I haven't been thinking about it for five minutes, but for five days."

"Johnny might help." Jim picks up the phone. A few minutes later Johnny enters. Half of his shirt is out and

his hair is a mess, clear signs that we interrupted him in one of his brainstormings. I feel guilty.

He heads directly to the couch. "Thank you for saving me from my misery. I woke up with some stupid problem, and since then I've been chasing it in circles. Tell me that you have a simple, elegant problem for me, something I can solve in five minutes and feel good about."

"We have," Jim promises him.

I start to explain.

Johnny listens and then says, "I don't know enough about projects."

"And we don't know much about constraints. So can you help me?"

"The blind leading the blind," he sighs. "Fine, let's put our heads together. But first, Jim, I need coffee."

"Miriam!"

Chapter 20

I'm in my office going over homework assignments. I teach four courses, and I'm a firm believer in homework. Unlike Jim, I like reading it. It's time consuming, but it's the only way to get real feedback; what I taught well, where was I too quick, what I mistakenly took for granted. So I'm not bored. Besides, some of the mistakes the students make are hilarious.

A knock on the door.

"Yes?"

Ted sticks his red head in. "Can I interrupt for a moment?" he asks politely.

"Sure thing. Have a seat." It's not time for student hours, but if it's important enough for him to come during the week, I have the time.

"I don't know how to do my homework assignment," he sighs.

"Since when are students concerned about such things?"

He laughs nervously. "This time it's important. You see, I know that we should shorten our lead time. And now, after