



## **My Son, the Physicist**

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**Her hair was light apple-green in color, very subdued, very old-fashioned. You could see she had a delicate hand with the dye, the way they did thirty years ago, before the streaks and stipples came into fashion.**

**She had a sweet smile on her face, too, and a calm look that made something serene out of elderliness.**

**And, by comparison, it made something shrieking out of the confusion that enfolded her in the huge government building.**

**A girl passed her at a half-run, stopped and turned toward her with a blank stare of astonishment. "How did you get in?"**

**The woman smiled. "I'm looking for my son, the physicist."**

**"Your son, the-**

**"He's a communications engineer, really. Senior Physicist Gerard Cremona."**

**"Dr. Cremona. Well, he's- Where's your pass?"**

**"Here it is. I'm his mother."**

**"Well, Mrs. Cremona, I don't know. I've got to- His office is down there. You just ask someone." She passed on, running.**

**Mrs. Cremona shook her head slowly. Something had happened, she supposed. She hoped Gerard was all right.**

**She heard voices much farther down the corridor and smiled happily. She could tell Gerard's.**

**She walked into the room and said, "Hello, Gerard."**

**Gerard was a big man, with a lot of hair still and the gray just beginning to show because he didn't use dye. He said he was too busy. She was very proud of him and the way he looked.**

**Right now, he was talking volubly to a man in army uniform. She couldn't tell the rank, but she knew Gerard could handle him.**

**Gerard looked up and said, "What do you- Mother! What are you doing here?"**

**"I was coming to visit you today."**

**"Is today Thursday? Oh *Lord*, I forgot. Sit down, Mother, I can't talk now. Any seat. Any seat. Look, General."**

**General Reiner looked over his shoulder and one hand slapped against the other in the region of the small of his back. "Your mother?"**

**"Yes."**

**"Should she be here?"**

**"Right now, no, but I'll vouch for her. She can't even read a thermometer so nothing of this will mean anything to her. Now look, General. They're on Pluto. You see? They are. The radio signals can't be of natural origin so they must originate from human beings, from our men. You'll have to accept that. Of all the expeditions we've sent out**



beyond the planetoid belt, one turns out to have made it. And they've reached Pluto."

"Yes, I understand what you're saying, but isn't it impossible just the same? The men who are on Pluto now were launched four years ago with equipment that could not have kept them alive more than a year. That is my understanding. They were aimed at Ganymede and seem to have gone eight times the proper distance."

"Exactly. And we've got to know how and why. They may just have had help."

"What kind? How?"

Cremona clenched his jaws for a moment as though praying inwardly. "General," he said, "I'm putting myself out on a limb but it is just barely possible non-humans are involved. Extra-terrestrials. We've got to find out. We don't know how long contact can be maintained."

"You mean" (the General's grave face twitched into an almost-smile) "they may have escaped from custody and they may be recaptured again at any time."

"Maybe. Maybe. The whole future of the human race may depend on our knowing exactly what we're up against. Knowing it now."

"All right. What is it you want?"

"We're going to need Army's Multivac computer at once. Rip out every problem it's working on and start programing our general semantic problem. Every communications engineer you have must be pulled off anything he's on and placed into coordination with our own."

"But why? I fail to see the connection."

A gentle voice interrupted. "General, would you like a piece of fruit? I brought some oranges."

Cremona said, "Mother! Please! Later! General, the point is a simple one. At the present moment Pluto is just under four billion miles away. It takes six hours for radio waves, traveling at the speed of light, to reach from here to there. If we say something, we must wait twelve hours for an answer. If they say something and we miss it and say 'what' and they repeat-bang, goes a day."

"There's no way to speed it up?" said the General.

"Of course not. It's the fundamental law of communications. No information can be transmitted at more than the speed of light. It will take months to carry on the same conversation with Pluto that would take hours between the two of us right now."

"Yes, I see that. And you really think extra-terrestrials are involved?"

"I do. To be honest, not everyone here agrees with me. Still, we're straining every nerve, every fiber, to devise some method of concentrating communication. We must get in as many bits per second as possible and pray we get what we need before we lose contact. And there's where I need Multivac and your men. There must be some communications strategy we can use that will reduce the number of signals we need send out. Even an increase of ten percent in efficiency



can mean perhaps a week of time saved."

The gentle voice interrupted again. "Good grief, Gerard, are you trying to get some talking done?"

"Mother! Please!"

"But you're going about it the wrong way. Really."

"Mother." There was a hysterical edge to Cremona's voice.

"Well, all right, but if you're going to say something and then wait twelve hours for an answer, you're silly. You shouldn't."

The General snorted. "Dr. Cremona, shall we consult-"

"Just one moment, General," said Cremona. "What are you getting at, Mother?"

"While you're waiting for an answer," said Mrs. Cremona, earnestly, "just keep on transmitting and tell them to do the same. You talk all the time and they talk all the time. You have someone listening all the time and they do, too. If either one of you says anything that needs an answer, you can slip one in at your end, but chances are, you'll get all you need without asking."

Both men stared at her.

Cremona whispered, "Of course. Continuous conversation. Just twelve hours out of phase, that's all. God, we've got to get going."

He strode out of the room, virtually dragging the General with him, then strode back in.

"Mother," he said, "if you'll excuse me, this will take a few hours, I think. I'll send in some girls to talk to you. Or take a nap, if you'd rather."

"I'll be all right, Gerard," said Mrs. Cremona.

"Only, how did you think of this, Mother? What made you suggest this?"

"But, Gerard, all women know it. Any two women-on the video-phone, or on the stratowire, or just face to face-know that the whole secret to spreading the news is, no matter what, to Just Keep Talking."

Cremona tried to smile. Then, his lower lip trembling, he turned and left.

Mrs. Cremona looked fondly after him. Such a fine man, her son, the physicist. Big as he was and important as he was, he still knew that a boy should always listen to his mother.