

Sometimes the best way to solve a problem is to get someone else to solve it for you. And occasionally the worst threat you can impose on a man is the threat of solving his problem!

MATE IN THREE MOVES

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Illustrated by Orban

Dr. Anderson pushed open the door of his apartment.

"Is that you, honey?" his wife called from the kitchen. "Come on out. I'm trying one of the French recipes from the cookbook Aunt Helen gave me for Christmas."

Dr. Anderson walked out to the kitchen. He took his glasses off and began to polish them with his handkerchief. "I've got some bad news, Jeanne," he began.

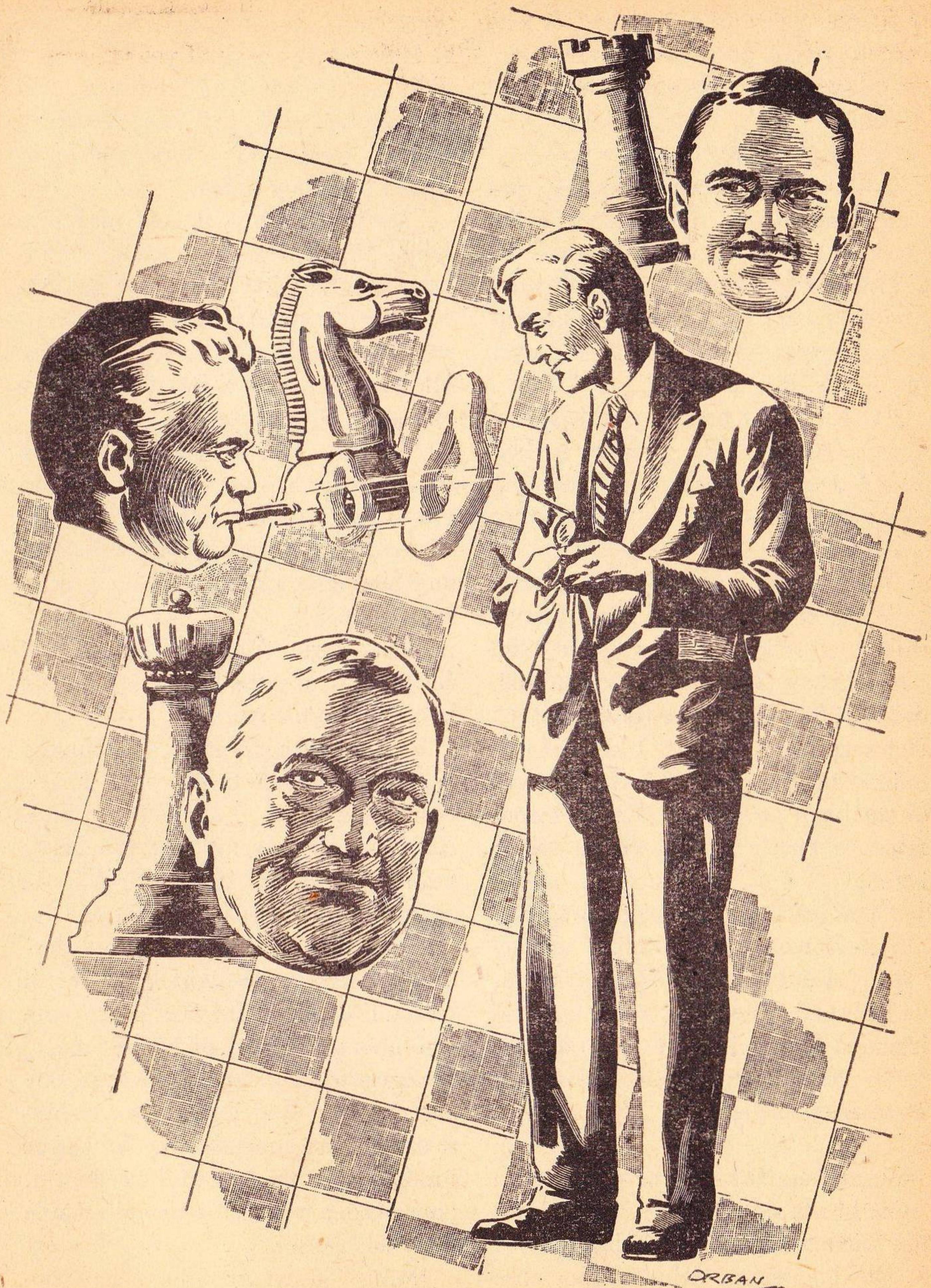
His wife turned to him quickly. "For goodness' sake, Andy," she said, "what is it? You couldn't sound worse if you'd lost your job."

"That's just what's happened," Dr. Anderson replied. "Not now, but in a couple of months." He opened a wall cabinet at the end of the kitchen. "Glad there's some Scotch left. I can use a drink."

"Wait a minute," Jeanne said.

"Let me get this straight. Why are they letting you out? When you came to Washington to take over the section, Radiation Shielding was bogged down so far it looked as if they'd have to ride a Roman candle if they ever wanted to get to Venus. Now—unless you've been handing me a line—you're getting close to the shielding a man-carrying atomic rocket will need. I can't see why they're firing—"

"Say when, Jeanne," Dr. Anderson said as he poured the Scotch. "Adams had me in his office this afternoon to give me the bad news. It seems the trouble is the 1975 budget. Congress is trying to prune nondefense expenses all they can—and I guess the Radiation Shielding section of the Venus Project is it. Or anyway, it's one of them. Adams said he had a reliable story on it. I'll be O.K. until the start of the 1975 fiscal year. That gives me



a couple of months. At that, it was decent enough of Adams to warn me." As he spoke, Dr. Anderson mixed the drinks.

"All right, your boss is a fine guy, if you say so." Jeanne paused, and sipped her drink. She looked at the glass, thought a moment, then drained it in four rapid swallows. "Well, what do we do now? I can go back to pounding a typewriter to keep a roof over our heads, if I have to."

"It isn't that bad. A physicist can always get work in industry today. But I want to work on a spaceship to go to Venus, not on cathodes for TV tubes or—"

"There isn't anything wrong with working on TV tubes, Andy." Jeanne walked over to him and kissed him. "But I know. TV tubes leave you cold. Some people have one-track minds." She kissed him again. "I kind of like your mind," she said. "After all, some of us have to get off Earth before someone finally lets go with a cobalt bomb."

"You learned that song from me," Dr. Anderson said, with no amusement. "I did hope to do my bit to get us off Earth. Well, not much use crying over spilt milk. You might as well finish the supper, Jeanne, unless you want another drink."

Jeanne started for the stove, then turned back slowly. "Say, wait a minute. You said you were being cut out of the budget to reduce nondefense

spending. I thought the Department of Defense was back of you?"

"Yes, we're on the 'Indirect Military Applications' list," Dr. Anderson replied. "I hadn't thought of that. That's certainly queer."

"Isn't it?" his wife said meaningfully. "Look, honey, I think there's more to the story than you got. Or even than your nice boss, Mr. Adams, got. Sometimes a Doctor of Philosophy like you can miss a lot. I may have only gone through business school—"

"Jeanne, I've heard that every time you've handed me a mixed up grocery list. This is serious. I'm losing the job that interests me more than anything else, and all you do is poke fun at me."

"I'm sorry, Andy. I am serious. Look, who do you know who might know the whole story?"

Dr. Anderson thought. "I suppose if Adams doesn't know, none of the other people on the Project would. And I really haven't met too many other people in Washington." He again began to polish his glasses.

"You met me, and that's something." Jeanne thought a moment. "Say, I'm going into the living room and phone a friend of mine—one of the friends of my shorthand days. She might know something. Mix yourself a drink and come on in. If you're drinking, at least you have to put your glasses back on your nose where they belong."

Jeanne dialed rapidly. The tele-

phone was answered promptly, and Jeanne talked. "Hello, Grace. Jeanne Anderson . . . No, I'm getting used to it. Jeanne French sounds funny to me now. After all, it's been two years . . . Yes, pretty good years. Anyway, I've enjoyed them . . . Well, yes, I did have something on my mind. Andy's in trouble. You know, he heads up the Radiation Shielding section on the Venus Project. Well, they're cutting Radiation Shielding out of the 1975 budget. I wondered if you knew anything about it? . . . All about it? Well? . . . So it's your precious boss. I might have known if there was anything shady this side of the Mississippi River, Senator Whitehead would be mixed up in it. Or the other side of the Mississippi, too . . . All right, maybe you can't say it because you work for him, but he's still a weasel. Grace, this is asking a lot, but there's just a chance the senator doesn't realize what he is doing. Do you think you could ~~sneak~~ Andy in on his appointment list? He might be able to talk him around . . . O.K., Thursday at 3. If you ever want anything, I'm your girl forever and ever."

His wife turned to Dr. Anderson. "That was Grace Fermer. She's Senator Whitehead's secretary. It seems he's the boy who held up your money. In spite of the kind of guy he is, he swings a lot of weight. You're to see him Thursday at 3."

"Thank you, Jeanne. You have probably saved the day. When I ex-

plain things to him, he can't help but change his mind. After all, a man in the position of the senator must want to do the right thing."

"I hope so, but you don't know Whitehead," his wife answered. "Come on back to the kitchen and talk about the weather. We can't do anything until you see Whitehead anyway."

At a quarter to three on Thursday Grace Fermer looked up as the outer door to the office opened. She suspected that the tall, rather thin man who stepped in might be Dr. Anderson. When he nervously started to polish his glasses she was sure. *Looks just the way Jeanne said he did*, she thought. She said, "Sit down, Dr. Anderson. You have a few minutes to kill before the senator will be able to see you. I told him that your wife was a friend of mine, and asked him to give you fifteen minutes. He said he'd be glad to."

"That was kind of him," Dr. Anderson broke in.

"Sure, he isn't too bad an egg, if it doesn't cost him any money," Miss Fermer answered. "Just don't tell him I let you know he was the boy blocking your Radiation Shielding money. Let him think it was a leak in the Committee. With one or two of the boys they have on Appropriations right now, anything that doesn't leak is a miracle."

"I'll be very careful what I tell him," Dr. Anderson promised.

Just then a buzzer on Miss Fermer's desk buzzed. She snapped down a switch on the intercom set, and spoke, "Yes, senator? . . . Yes, he's here already . . . I'll ask him to step right in." To Dr. Anderson she said, "The senator will see you now." She opened the door to the inner office, and announced, "This is Dr. Anderson, senator. Senator Whitehead, doctor." She stepped out, and closed the door.

"Sit down, doctor, sit down," the senator boomed. "Care for a cigar?"

"No, thank you," Dr. Anderson said. "I never started smoking, so I'm afraid I still don't smoke."

"You're lucky, young man, you're lucky," the senator said. "Often wished I'd never started myself. Any- way, I'm glad to see you. Always glad to talk to a friend of Grace's. Fine girl, Grace."

"I'm not exactly a friend of Miss Fermer's. My wife is." Dr. Anderson liked to be precise even in little things.

"No matter, my boy, no matter." The senator puffed at his cigar, puffed again until it drew properly, then exhaled a cloud of smoke. "Just what did you want to talk to me about?"

"Well, senator, here is the story," Dr. Anderson began. "I'll have to give you a little background first to make it understandable."

"Fine," the senator said.

"The Venus Project began in 1957, just after the first unmanned rocket reached the Moon. We were already

in the present stalemate with Russia, and they already had the cobalt bomb. The Project really began to give man- kind a chance if someone exploded a cobalt bomb. At least the colonists on Venus would survive."

"Cheerful devils, you scientists," the senator grunted.

"Sometimes facing facts isn't too cheerful. Anyway, the aim of the Project was to plant a colony on Venus—or on some other planet, if Venus proved out of the question. And that meant that chemical rockets were not good enough. We had to have an atomic-powered job."

"What's wrong with chemical rock- ets?" the senator asked. "One reached the Moon, didn't it?"

"Yes, but it carried only a small charge of flash powder. We need ton- nage transport to put a colony on Venus, or anywhere else, for that matter."

"Go on, Dr. Anderson," the senator said.

"The big difficulty with atomic propulsion is how to shield the crew and the cargo from the radiation of the motors. We need a light-weight, efficient shield, and at last we're getting close to it. If the money for the Radiation Shielding section is cut out of our budget, we may end up with a fine spaceship. Only trouble is, no one will ever live through a trip on it. Now, everything that I have said I can prove. I'm sure, senator, that with facts before you—"

"Look, son," the senator interrupted. "I don't know how much of the story you know. Our work on the budget is supposed to be secret. Apparently the secret leaked, like most secrets around this town. Well, apparently you know that I was the man who killed your appropriation. The rest of the Committee weren't interested enough to argue with me. I might as well tell you the entire story, since you're a friend of Grace's."

"I'm not. My wife is."

"You said that before, my boy, you said that before. And I still can't see it makes any difference." The senator had little use for precision, in little things or big things. "You probably heard that the reason we killed your appropriation was to cut non-defense spending." As Dr. Anderson started to interrupt, the senator raised his hand and went on, "Don't bother saying it. You're a defense project, and there's no telling what military advantages will come from space travel. Of course, that wasn't the real reason."

"What was the real reason?" Dr. Anderson asked.

"Nothing you can do anything about, young fellow." The senator leaned back in his chair and blew a smoke ring. Dr. Anderson began to polish his glasses. Finally the senator leaned forward and said, "I don't know why I shouldn't tell you the whole story. You can't do much harm if you do let it out, because you can't

prove anything. At least it will keep you from bumping your head against a stone wall."

"Oh," was all Dr. Anderson could think of to say.

"Here it is," the senator continued. "I'll have to give you a little background first. We're having a presidential election this fall, and my party expects to take over. And you probably realize our presidential candidate will be the present governor of New York. When he is elected, barring accidents, I'm scheduled for Secretary of State." The senator reflectively blew two smoke rings. "That's a long way up from doing chores. You know, young fellow, I really did start on a farm. Never did me any harm in politics, either. Well, one of the accidents that could keep me from becoming Secretary of State is to have the party organization in my own state oppose me for the job."

"But I thought you controlled your State party organization?" Dr. Anderson was honestly puzzled.

"I do, son, I do—on paper." The senator smiled. "Unfortunately, someone else puts up the money. The man who puts up most of it happens to have got it out of mining. He's afraid of competition from mines on Venus. If I don't block that possible competition, he—and his money—will ask for my scalp. And get it, too. Son, I'd like to help you, but my hands are tied."

"But that's ridiculous," Dr. Anderson sputtered. "Our estimate is that

freight will cost about forty-five dollars a pound to Venus. That's no competition for mines on Earth."

"That's today. What about twenty years from now?" the senator asked.

"Twenty years from now is a long way off," Dr. Anderson said, after considerable hesitation.

"My friend back home with the money looks a long way off. That's why he has the money," the senator answered.

"What difference does it make, if we're all killed by a cobalt bomb?" Dr. Anderson asked.

"You know, it's funny, but my friend doesn't seem to worry about that. I suppose he should, because the chances of his being killed after a bomb lets go are a lot higher than of being run out of business by mines on Venus. Still, he doesn't. Son, the first rule I learned in politics was to work with people as they are. Use them, not try to reform them. I've always done that—even with myself." The senator laid down his cigar. "Well, doctor, it's been a pleasure talking to you. Take my advice, and forget the whole business. Get yourself a job in private industry where this sort of thing isn't likely to happen. If you want a reference, get in touch with Grace and I'll give you a good one. In fact, you might ask her to make a note of it as you go. It's been a pleasure talking to you. Hope we've got things straightened out."

"Thank you, senator."

"Jeanne, I don't know what to do now. There isn't any use trying to talk to Senator Whitehead again. I've got to go over his head. And I don't know who that means, except the President. And there isn't any way I can see him." Dr. Anderson held his head in his hands.

"Cheer up, Andy, it could be a lot worse. After all, we're still eating," his wife said. "Now, think hard. Doesn't the President have anyone who checks up on things like the Venus Project for him?"

"Well, yes, there's Rice. He's Chairman of the Interdepartmental Research Co-ordinating Committee—but I don't know him. Wouldn't recognize him if I met him on the street. Don't know anyone who does know him, either. So I guess that's out."

"Out, my foot," his wife said viciously. "You pick up that phone and call your Mr. Rice. Tell him you're Dr. Anderson of Venus Project, and that you want to see him about the Radiation Shielding appropriation."

As Dr. Anderson dialed, he looked at his wife doubtfully. He talked on the phone for about five minutes, first with a secretary and then with the Chairman of the Interdepartmental Research Co-ordinating Committee, Harold Rice himself. When he hung up, he smiled broadly at his wife. "Don't think he'd have seen me if he hadn't been an Iowa State graduate, too. He wants me there day after tomorrow, and I'm to send his secretary

a summary of the story tomorrow, so he'll have a chance to get up to date on it. Come here and kiss me. Maybe I've swung it."

Being an intelligent girl, Jeanne kissed him without comment.

Mr. Harold Rice's office was brilliantly lit, angular, and efficient. Dr. Anderson wondered if the desk in front of Mr. Rice was long enough for a bowling alley, but a quick mental calculation showed it was not.

"What year were you at Iowa State, doctor?" Rice began. "You got out in '68? I'm '60 myself, so I don't imagine we had many friends at college in common. Of course, that's only a detail. Main thing is, we went to the same school. That's the broad general picture. That's the important thing."

Dr. Anderson nodded happily.

"Now, about this complaint of yours, doctor. Can't say I'm pleased about that at all. You say radiation shielding work is being cut out of the 1975 budget. Well, that's too bad. I say it's too bad, because I'm always in favor of spending more money for research. But it's only a detail in the broad general picture of the Venus Project. I can't look after details. I've got to keep the forest in mind, not the trees."

"But it's such an essential—" Dr. Anderson managed to break in.

"The manager of the Project is Adams." Rice went right on. "He's a good man. I helped pick him for the

job. Don't you feel we picked a good man, doctor?"

"Adams is an excellent man, but—"

"That's always been my idea of how to run a job, doctor. Pick out a good man, and give him his head. Don't worry about the details of how he runs the job. He's there to worry about details. Important thing is to be sure you've got a good man. Don't you agree, doctor?"

"Why, yes, but—"

"Glad you see the point, doctor. I can't interfere with individual portions of the Project as long as Adams has the overall authority. That's against every principle in the books on management. Can't sacrifice principles for details. Isn't that so, doctor?"

"Well—!"

"I'm glad you agree, doctor. It's been nice to have a chance to talk to you, and I'm glad I was able to. We boys from the corn country have to stick together in Washington. Well, I've got to run now. We're co-ordinating the boll weevil at half past two—that is, co-ordinating boll weevil work. Drop in again any time you feel like a chat."

"You certainly made a mess of that, Andy," his wife said.

Dr. Anderson got up from his chair and walked over to a footstool. He kicked the footstool. Then he looked at his foot, shook it to see if anything was broken, and returned to his chair.

"At that, darling, I suppose I can't

blame you. You never did get a word in edgewise, did you?" She giggled, then caught a glimpse of her husband's face, and stopped giggling. "I'm stuck. I guess the only thing we can do is to call on some expert help. I wonder if Jerry Lewis—"

Dr. Anderson's head snapped up. "Who's Jerry Lewis?"

"I used to know him before I met you. Haven't seen him much since, somehow. He works for Amalgamated Press. Knows a lot about what goes on. Only lives a few blocks away."

"Ask him to come over. We can't lose anything. At least we can give him a drink for his trouble, so he won't lose either." Dr. Anderson walked heavily into the kitchen. "He's out of luck if he likes Scotch, though. I had three shots after I talked to Senator Whitehead, and I guess I finished the bottle tonight."

Jerry Lewis listened to Dr. Anderson's story. He thought to himself that Jeanne had done all right. Her husband might polish his glasses with a handkerchief while he told it, but he certainly told a story clearly. The scientific mind, Jerry thought.

"I'm not particularly surprised," Jerry said when he had heard the entire story. "Whitehead takes care of himself. Rice isn't sure of what he is doing, and he won't risk doing anything that might show it."

"We weren't surprised either, Jerry, after it all had happened," Jeanne

said. "The question we'd like you to answer is, where do we go from here?"

"That's a tough one," Lewis said. "What you need is someone who can make Whitehead toe the mark. Since Whitehead seems to be mainly interested in the job of Secretary of State, that means someone who can say whether Whitehead gets the job or not. That's the governor of New York, who'll be our next president if the polls mean anything. And since they've replaced human interviewers with emotographs, the polls do mean something."

"Should we try to talk to the governor?" Dr. Anderson asked.

"No use," Jerry answered. "In the first place, you wouldn't get a chance to see him, and in the second place he only does what O'Connell tells him to do."

"O'Connell?" Jeanne asked.

"O'Connell—Owen O'Connell," Lewis answered. "The leader of the Eleventh Assembly District in New York City. O'Connell put the governor where he is today, and the governor knows it. If the governor gets to be president, he'll still know who put him there."

"Isn't there an Owen O'Connell who is a chess master?" Dr. Anderson asked.

"Same man. It's a funny thing. You wouldn't expect a political boss to be a chess player, but this one is. He's done fairly well in tournaments, too."

"Does Andy see him?" Jeanne

asked bluntly, but hopefully.

"Not much use," Lewis replied. "He isn't interested in anything but politics and chess. You can't show him where he'll gain by helping you, and he isn't the kind of fellow who does a good turn because he's a Boy Scout. From what I hear, he's even more interested in chess than in politics, but Andy doesn't even play chess, so that's no angle."

"Looks as if we're beaten," Jeanne said. "I've used my brains, you've told us all you know, and Andy's gone at it in his straightforward physicist way. And it doesn't add up to a thing. Maybe you'll like working on television tube cathodes, Andy."

"Maybe," Dr. Anderson said. Several minutes passed in silence. Then Dr. Anderson spoke again, hesitatingly. "Maybe you said something, Jeanne. You know, I really haven't been going at this like a physicist. I've been going at it no differently from the way anyone else would. Maybe physics is the answer." He turned to Jerry Lewis. "Your Mr. O'Connell likes to play chess."

"That's what I said," Lewis replied. "Just wait while I look up one of my college texts." Dr. Anderson walked to the bookshelves along the wall, and hunted for a minute. "Jeanne, did you move von Neumann? Oh, no, here it is." He leafed through the book rapidly, read for a moment, then closed the book and returned it to the shelf.

"Jerry, could you make an appointment for me with O'Connell? I'd like to show him something." Dr. Anderson was excited. "Tell him I'd like to take him for a taxi trip to see something of great importance to him."

"I'll call him right now. That way the call will be on your bill," Lewis said. A few minutes, and considerable discussion later, he hung up. "If he hadn't wondered a little why anyone would call him from Washington to invite him for a taxi trip, I don't think he'd have bitten. He said to pick him up after lunch tomorrow. What do you have in mind?"

"Right now I've got to call a friend of mine in New York," Dr. Anderson evaded. "It's Joe Richards—you've heard me speak of him, Jeanne—who runs a computing service in Long Island City. He's got a pair of the new R-42 computers. He'll help set the stage. While we're talking, you might take Jerry out in the kitchen and fix him a drink."

"Dr. Anderson, that was an interesting story you just told me about the Venus Project and your work in radiation shielding," Owen O'Connell said. He was a big man and an important one, who spoke as though he knew it. "And I'm enjoying our taxi ride to Long Island City. Now, I won't deny that as things stand right now I have some influence with Senator Whitehead—quite a lot of influence,

in fact. However, if I use it I will irritate him. Frankly, you haven't given me a good enough reason to annoy the senator."

"We're here now," Dr. Anderson said. "When you've seen the work we're doing, you may have your answer on why you should bother the senator."

The taxi stopped in front of a small factory building. In the tiny office inside, Dr. Anderson introduced O'Connell to Joe Richards. Then he suggested they go into the computer room.

"Very interesting, gentlemen," O'Connell said. "A modern computer certainly looks simple enough from the outside. I suppose the complications are inside. But perhaps now you are ready to tell me why you brought me here. Is this machine figuring your course to Venus?"

"Oh, no, Mr. O'Connell. It's figuring out a chess problem. Or rather *the chess problem*," Dr. Anderson answered. "One of the two machines, that is. The other is analyzing a market survey for a tooth paste company."

"*The chess problem?* What's that?" O'Connell asked.

"That's a long story," Dr. Anderson said. "About thirty years ago, von Neumann and Morgenstern proved, in a book called 'Theory of Games and Economic Behavior,' that chess was a determinate game—that is, a game in which the result is settled before

you even begin to play, provided that both sides play correctly. The catch is that the game is so complicated we don't know what the correct way to play is. As a matter of fact, we don't even know if white should win, if black should win, or if the game should be a draw. There is one way to find out, however. That is simply to sit down and try all the possible moves, play all the possible games, and analyze the results."

"I suppose the reason that's never been done is that there are too many games to play, even in a lifetime."

O'Connell smiled.

"Yes, or in several lifetimes," Dr. Anderson smiled back. "Fortunately, an R-42 computer, like the two in this room, can be set to play several thousands of games of chess a second, and analyze the results. We've been running all morning on openings where white opens with king's rook's pawn to rook's three. Next we will check in order the games beginning with the other possible opening moves. In about two weeks we'll have the job finished."

"What will that mean," O'Connell asked.

"Why, for one thing it will pretty much spoil the interest in a game of chess," Dr. Anderson said. "You'll know before you sit down how the game will come out, and what are the correct moves."

"Where's a phone?" O'Connell asked. He dialed rapidly. "Professor

Otis? Owen O'Connell. Professor, is it true that if we checked every possible game of chess we could find out who should win and how to play to win—that there wouldn't be any more reason to play? . . . Yes, I know all about von Neumann and I know no one would live long enough to play all the possible games. Thanks." He hung up. "Well, Dr. Anderson. Mr. Richards. I guess you're right. In a couple of weeks you'll have spoiled my main pleasure in life. I don't know what I'll do if you take the sport out of chess. Take up collecting stamps, perhaps." He shook his head moodily.

Dr. Anderson spoke, picking his words carefully. "Perhaps I should have made it clear, Mr. O'Connell, that I only became interested in the chess problem when the radiation shielding work appeared to be out of the picture. If we get an appropriation for radiation shielding for next year, I doubt I will have enough interest in chess to finish the calculations."

"So that's the game," O'Connell said. "And I always thought physicists were babes in the woods. All

right, I'll talk to the governor, and he'll talk to Whitehead. You're perfectly safe in losing your interest in chess—right now for choice. Is that taxi still outside? I can't spend all day here chatting."

"Darling, you were wonderful," Jeanne said, stroking her husband's hair. "Now that you have your money, we'll get to Venus soon. But I feel a little sorry for poor Mr. O'Connell. He should have known he couldn't get the best of my husband."

"But, honey, he could have very easily." Dr. Anderson sat up. "He asked his professor the wrong question. What he should have asked is: How long it would take a computer to play every possible game of chess? Even playing a hundred thousand games a second, we'd all be dead and Earth dead and the sun cold before the computer finished. Oh, well, if O'Connell had been smart enough to ask the right question we would have had to think of something else." Dr. Anderson grinned, sank back, and put his wife's hand to his hair again.

THE END