

Every once in a long long while a genius is born who perforce must struggle against an environment of poverty and through sheer pertinacity arrive at the top. In 1887 it was Ramanujan. Tomorrow—it could be Gomez. But the pressure of modern politics may only wish to use a new form of mathematics for its own ends.

G O M E Z

By C. M. Kornbluth

Illustrated by QUINN

Now that I'm a cranky, constipated old man I can afford to say that the younger generation of scientists makes me sick to my stomach. Short order fry-cooks of destruction, they hear through the little window the dim order: "Atom bomb rare, with cobalt 60!" and sing it back and rattle their stinking skillets and sling the deadly hash—just what the customer ordered, with never a notion invading their smug, too-heated havens that there's a small matter of right and wrong that takes precedence even over their haute cuisine.

There used to be a slew of them who yelled to high heaven about it. Weiner, Urey, Szilard, Morrison—dead now, and worse. Unfashionable. The greatest of them you have never heard of. Admiral MacDonald never did clear the story. He was Julio Gomez, and his story was cleared yesterday by a fellow my Jewish friends call Malach Hamovis, the Hovering Angel of Death. A black-bordered letter from Rosa advised me that Malach Hamovis had come in on runway six with his flaps down and picked up Julio at the age of thirty-nine. Pneumonia.



"But," Rosa painfully wrote, "Julio would want you to know he died not too unhappy, after a good though short life with much of satisfaction . . ."

I think it will give him some more satisfaction, wherever he is, to know that his story at last is getting told.

It started twenty-two years ago with a routine assignment on a crisp October morning. I had an appointment with Dr. Sugarman, the head of the physics department at the University. It was the umpteenth anniversary of something or other—first atomic pile, the test A-bomb, Nagasaki—I don't remember what, and the Sunday editor was putting together a page on it. My job was to interview the three or four University people who were Manhattan District grads.

I found Sugarman in his office at the top of the modest physics building's square gothic tower, brooding through a pointed-arch window at the bright autumn sky. He was a tubby, jowly little fellow. I'd been seeing him around for a couple of years at testimonial banquets and press conferences, but I didn't expect him to remember me. He did, though, and even got the name right.

"Mr. Vilchek?" he beamed. "From the *Tribune*?"

"That's right, Dr. Sugarman. How are you?"

"Fine; fine. Sit down, please. Well, what shall we talk about?"

"Well, Dr. Sugarman, I'd like to have your ideas on the really fundamental issues of atomic energy, A-bomb control and so on. What in your opinion is the single most important factor in these problems?"

His eyes twinkled; he was going to surprise me. "Education!" he said, and leaned back waiting for me to register shock.

I registered. "That's certainly a different approach, doctor. How do you mean that, exactly?"

He said impressively: "Education—*technical* education—is the key to the underlying issues of our time. I am deeply concerned over the unawareness of the general public to the meaning and accomplishments of science. People underrate me—underrate *science*, that is—because they do not *understand* science. Let me show you something." He rummaged for a moment through papers on his desk and handed me a sheet of lined tablet paper covered with chicken-track handwriting. "A letter I got," he said. I squinted at the pencilled scrawl and read:

October 12.

Esteemed Sir:

Beg to introduce self to you the atomic Scientist as a youth 17 working with diligence to perfect self in Mathematical Physics. The knowledge of English is imperfect since am in New-York 1 year only from Puerto Rico and due to Father and Mother poverty must wash the dishes in the restaurant. So esteemed sir excuse imperfect English which will better.

I hesitate intruding your valuable Scientist time but hope you sometime spare minutes for diligents such as I. My difficulty is with

neutron cross-section absorption of boron steel in Reactor which theory I am working out. Breeder reactors demand

$$u = \frac{X}{1} + \frac{X^5}{1} + \frac{X^{10}}{1} + \frac{X^{15}}{1} + \dots$$

for boron steel, compared with neutron cross-section absorption of

$$v = \frac{X^{\frac{1}{5}}}{1} + \frac{X}{1} + \frac{X^2}{1} + \frac{X^3}{1} + \dots$$

for any Concrete with which I familiarize myself. Whence arises relationship

$$v^5 = u \frac{1 - 2u + 4u^2 - 3u^3 + u^4}{1 + 3u + 4u^2 + 2u^3 + u^4}$$

indicating only a fourfold breeder gain. Intuitively I dissatisfy with this gain and beg to intrude your time to ask wherein I neglect. With the most sincere thanks.

J. Gomez

*c/o Porto Bello Lunchroom
124th St. & St. Nicholas Ave.
New-York, New-York*

I laughed and told Dr. Sugarman appreciatively: "That's a good one. I wish our cranks kept in touch with us by mail, but they don't. In the newspaper business they come in and demand to see the editor. Could I use it, by the way? The readers ought to get a boot out of it."

He hesitated and said: "All right—if you don't use my name. Just say 'a prominent physicist.' I didn't think it was too funny myself though, but I see your point, of course. The boy may be feeble-minded—and he probably is—but he believes, like too many people, that science is just a bag of tricks which any ordinary person can acquire—"

And so on and so on.

I went back to the office and wrote the interview in twenty minutes. It took me longer than that to talk the Sunday editor into running the Gomez letter in a box on the atom-anniversary page, but he finally saw it my way. I had to retype it. If I'd just sent the letter down to the composing room as was, we would have had a strike on our hands.

On Sunday morning, at a quarter past six, I woke up to the tune of fists thundering on my hotel-room door. I found my slippers and bathrobe and lurched blearily across the room. They didn't wait for me to unlatch. The door opened. I saw one of the hotel clerks, the

Sunday editor, a frosty-faced old man and three hard-faced, hard-eyed young men. The hotel clerk mumbled and retreated and the others moved in. "Chief," I asked the Sunday editor hazily, "what's going—?"

A hard-faced young man was standing with his back to the door; another was standing with his back to the window and the third was blocking the bathroom door. The icy old man interrupted me with a crisp authoritative question snapped at the editor. "You identify this man as Vilchek?"

The editor nodded.

"Search him," snapped the old man. The fellow standing guard at the window slipped up and frisked me for weapons while I sputtered incoherently and the Sunday editor avoided my eye.

When the search was over the frosty-faced old boy said to me: "I am Rear Admiral MacDonald, Mr. Vilchek. I'm here in my capacity as deputy director of the Office of Security and Intelligence, U.S. Atomic Energy Commission. Did you write this?" He thrust a newspaper clipping at my face.

I read, blearily:

**WHAT'S SO TOUGH ABOUT A-SCIENCE ?
TEENAGE POT-WASHER DOESN'T KNOW**

A letter received recently by a prominent local atomic scientist points up Dr. Sugarman's complaint (see adjoining column) that the public does not appreciate how hard a physicist works. The text, complete with "mathematics" follows:

Esteemed Sir:

Beg to introduce self to you the Atomic Scientist as youth 17 working—

"Yes," I told the admiral. "I wrote it, except for the headline. What about it?"

He snapped: "The letter is purportedly from a New York youth seeking information, yet there is no address for him given. Why is that?"

I said patiently: "I left it off when I copied it for the composing room. That's *Trib* style on readers' letters. What is all this about?"

He ignored the question and asked: "Where is the purported original of the letter?"

I thought hard and told him: "I think I stuck it in my trousers pocket. I'll get it—" I started for the chair with my suit draped over it.

"Hold it, mister!" said the young man at the bathroom door. I held it and he proceeded to go through the pockets of the suit. He found the Gomez letter in the inside breast pocket of the coat and

passed it to the admiral. The old man compared it, word for word, with the clipping and then put them both in his pocket.

"I want to thank you for your co-operation," he said coldly to me and the Sunday editor. "I caution you not to discuss, and above all not to publish, any account of this incident. The national security is involved in the highest degree. Good day."

He and his boys started for the door, and the Sunday editor came to life. "Admiral," he said, "this is going to be on the front page of to-morrow's *Trib*."

The admiral went white. After a long pause he said: "You are aware that this country may be plunged into global war at any moment. That American boys are dying every day in border skirmishes. Is it to protect civilians like you who won't obey a reasonable request affecting security?"

The Sunday editor took a seat on the edge of my rumpled bed and lit a cigarette. "I know all that, admiral," he said. "I also know that this is a free country and how to keep it that way. Pitiless light on incidents like this of illegal search and seizure."

The admiral said: "I personally assure you, on my honour as an officer, that you would be doing the country a grave disservice by publishing an account of this."

The Sunday editor said mildly: "Your honour as an officer? You broke into this room without a search warrant. Don't you realize that's against the law? And I saw your boy ready to shoot when Vilchek started for that chair." I began to sweat a little at that, but the admiral was sweating harder.

With an effort he said: "I should apologize for the abruptness and discourtesy with which I've treated you. I do apologize. My only excuse is that, as I've said, this is a crash-priority matter. May I have your assurance that you gentlemen will keep silent?"

"On one condition," said the Sunday editor. "I want the *Trib* to have an exclusive on the Gomez story. I want Mr. Vilchek to cover it, with your full co-operation. In return, we'll hold it for your release and submit it to your security censorship."

"It's a deal," said the admiral, sourly. He seemed to realize suddenly that the Sunday editor had been figuring on such a deal all along.

On the plane for New York, the admiral filled me in. He was precise and unhappy, determined to make the best of a bad job. "I was awakened at three this morning by a phone call from the chairman of the Atomic Energy Commission. He had been awakened by a call from Dr. Monroe of the Scientific Advisory Committee. Dr. Monroe had been up late working and sent out for the Sunday *Tribune* to read

before going to sleep. He saw the Gomez letter and went off like a 16-inch gun. The neutron cross-section absorption relationship expressed in it happens to be, Mr. Vilchek, his own work. It also happens to be one of the nation's most closely-guarded—er—atomic secrets. Presumably this Gomez stumbled on it somehow, as a janitor or something of the sort, and is feeding his ego by pretending to be an atomic scientist."

I scratched my unshaven jaw. "Admiral," I said, "you wouldn't kid me? How can three equations be a top atomic secret?"

The admiral hesitated. "All I can tell you," he said slowly, "is that breeder reactors are involved."

"But the letter said that. You mean this Gomez not only swiped the equations but knew what they were about?"

The admiral said grimly: "Somebody has been incredibly lax. It would be worth many divisions to the Asians for their man Kaptza to see those equations—and realize that they are valid."

He left me to chew that one over for a while as the plane droned over New Jersey. Finally the pilot called back: "E.T.A. five minutes, sir. We have landing priority at Newark."

"Good," said the admiral. "Signal for a civilian-type car to pick us up without loss of time."

"Civilian," I said.

"Of course civilian!" he snapped. "That's the hell of it. Above all we must not arouse suspicion that there is anything special or unusual about this Gomez or his letter. Copies of the *Tribune* are on their way to the Far East now as a matter of routine—they take all American papers and magazines they can get. If we tried to stop shipment of *Tribunes* that would be an immediate give-away that there was something of importance going on."

We landed and the five of us got into a late-model car, neither drab nor flashy. One of the admiral's young men relieved the driver, a corporal with Signal Corps insignia. There wasn't much talk during the drive from Newark to Spanish Harlem, New York. Just once the admiral lit a cigarette, but he flicked it through the window after a couple of nervous puffs.

The Porto Bello Lunchroom was a store-front restaurant in the middle of a shabby tenement block. Wide-eyed, graceful skinny little kids stared as our car parked in front of it and then converged on us purposefully. "Watch your car, mister?" they begged. The admiral surprised them—and me—with a flood of Spanish that sent the little extortionists scattering back to their stickball game in the street and their potsy layouts chalked on the sidewalks.

"Higgins," said the admiral, "see if there's a back exit." One of

his boys got out and walked around the block under the dull, incurious eyes of black-shawled women sitting on their stoops. He was back in five minutes, shaking his head.

"Vilchek and I will go in," said the admiral. "Higgins, stand by the restaurant door and tackle anyone who comes flying out. Let's go, reporter. And remember that I do the talking."

The noon-hour crowd at the Porto Bello's ten tables looked up at us when we came in. The admiral said to a woman at a primitive cashier's table: "*Nueva York* Board of Health, *senora*."

"Ah!" she muttered angrily. "*Por favor, no aqui!* In back, understand? Come." She beckoned a pretty waitress to take over at the cash drawer and led us into the steamy little kitchen. It was crowded with us, an old cook and a young dishwasher. The admiral and the woman began a rapid exchange in Spanish. He played his part well. I myself couldn't keep my eyes off the kid dishwasher who somehow or other had got hold of one of America's top atomic secrets.

Gomez was seventeen, but he looked fifteen. He was small-boned and lean, with skin the colour of bright Virginia tobacco in an English cigarette. His hair was straight and glossy-black and a little long. Every so often he wiped his hands on his apron and brushed it back from his damp forehead. He was working like hell, dipping and swabbing and rinsing and drying like a machine, but he didn't look pushed or angry. He wore a half-smile that I later found out was his normal, relaxed expression and his eyes were far away from the kitchen of the Porto Bello Lunchroom. The elderly cook was making it clear by the exaggerated violence of his gesture and a savage frown that he resented these people invading his territory. I don't think Gomez even knew we were there. A sudden, crazy idea came into my head.

The admiral had turned to him. "*Como se llama, chico?*"

He started and put down the dish he was wiping. "Julio Gomez, *senor*. *Por que, por favor? Que pasa?*"

He wasn't the least bit scared.

"*Nueva York* Board of Health," said the admiral. "*Con su permiso*" He took Gomez' hands in his and looked at them gravely, front and back, making *tsk-tsk* noises. Then, decisively: "*Vamos, Julio. Siento mucho. Usted esta muy enfermo.*" Everybody started talking at once, the woman doubtless objecting to the slur on her restaurant and the cook to losing his dishwasher and Gomez to losing time from the job.

The admiral gave them broadside for broadside and outlasted them. In five minutes we were leading Gomez silently from the restaurant. "*La loteria!*" a woman customer said in a loud whisper. "*O las putas,*" somebody said back. Arrested for policy or marihuana, they

thought. The pretty waitress at the cashier's table looked stricken and said nervously: "Julio?" as we passed, but he didn't notice.

Gomez sat in the car with the half-smile on his lips and his eyes a million miles away as we rolled downtown to Foley Square. The admiral didn't look as though he'd approve of any questions from me. We got out at the Federal Building and Gomez spoke at last. He said in surprise: "This, it is not the hospital!"

Nobody answered. We marched him up the steps and surrounded him in the elevator. It would have made anybody nervous—it would have made *me* nervous—to be herded like that; everybody's got something on his conscience. But the kid didn't even seem to notice. I decided that he must be a half-wit or—there came that crazy notion again.

The glass door said "U.S. Atomic Energy Commission, Office of Security and Intelligence." The people behind it were flabbergasted when the admiral and party walked in. He turned the head man out of his office and sat at his desk, with Gomez getting the caller's chair. The rest of us stationed ourselves uncomfortably around the room.

It started. The admiral produced the letter and asked in English: "Have you ever seen this before?" He made it clear from the way he held it that Gomez wasn't going to get his hands on it.

"*Sì, seguro.* I write it last week. This is funny business. I am not really sick like you say, no?" He seemed relieved.

"No. Where did you get these equations?"

Gomez said proudly: "I work them out."

The admiral gave a disgusted little laugh. "Don't waste my time, boy. Where did you get these equations?"

Gomez was beginning to get upset. "You got no right to call me liar," he said. "I not so smart as the big physicists, *seguro*, and maybe I make mistakes. Maybe I waste the *profesor* Soohar-man his time but he got no right to have me arrest. I tell him right in letter he don't have to answer if he don't want. I make no crime and you got no right!"

The admiral looked bored. "Tell me how you worked the equations out," he said.

"Okay," said Gomez sulkily. "You know the random paths of neutron is expressed in matrix mechanics by *profesor* Oppenheim five years ago, all okay. I transform his equations from path-prediction domain to cross-section domain and integrate over absorption areas. This gives *u* series and *v* series. And from there, the *u-v* relationship is obvious, no?"

The admiral, still bored, asked: "Got it?"

I noticed that one of his young men had a shorthand pad out. He said: "Yes."

The admiral picked up the phone and said: "This is MacDonald. Get me Dr. Mines out at Brookhaven right away." He told Gomez blandly: "Dr. Mines is the chief of the A.E.C. Theoretical Physics Division. I'm going to ask him what he thinks of the way you worked the equations out. He's going to tell me that you were just spouting a lot of gibberish. And then you're going to tell me where you *really* got them."

Gomez looked mixed up and the admiral turned back to the phone. "Dr. Mines? This is Admiral MacDonald of Security. I want your opinion on the following." He snapped his fingers impatiently and the stenographer passed him his pad. "Somebody has told me that he discovered a certain relationship by taking—" He read carefully. "—by taking the random paths of a neutron expressed in matrix mechanics by Oppenheim, transforming his equations from the path-prediction domain to the cross-section domain and integrating over the absorption areas."

In the silence of the room I could hear the faint buzz of the voice on the other end. And a great red blush spread over the admiral's face from his brow to his neck. The faintly-buzzing voice ceased and after a long pause the admiral said slowly and softly: "No, it wasn't Fermi or Szilard. I'm not at liberty to tell you who. Can you come right down to the Federal Building Security Office in New York? I—I need your help. Crash priority." He hung up the phone wearily and muttered to himself: "Crash priority. Crash." And wandered out of the office looking dazed.

His young men stared at one another in frank astonishment. "Five years," said one, "and—"

"Nix," said another, looking pointedly at me.

Gomez asked brightly: "What goes on anyhow? This is damn funny business, I think."

"Relax, kid," I told him. "Looks as if you'll make out all—"

"Nix," said the nixer again savagely, and I shut up and waited.

After a while somebody came in with coffee and sandwiches and we ate them. After another while the admiral came in with Dr. Mines. Mines was a white-haired, wrinkled Connecticut Yankee. All I knew about him was that he'd been in mild trouble with Congress for stubbornly plugging world government and getting on some of the wrong letterheads. But I learned right away that he was all scientist and didn't have a phony bone in his body.

"Mr. Gomez?" he asked cheerfully. "The admiral tells me that you are either a well-trained foreign spy or a phenomenal self-taught nuclear physicist. He wants me to find out which."

"Foreign?" yelled Gomez, outraged. "He's crazy! I am American United States citizen!"

"That's as may be," said Dr. Mines. "Now, the admiral tells me you describe the $u-v$ relationship as 'obvious.' I should call it a highly abstruse derivation in the theory of continued fractions and complex multiplication."

Gomez strangled and gargled helplessly trying to talk, and finally asked, his eyes shining: "*Por favor*, could I have piece paper?"

They got him a stack of paper and the party was on.

For two unbroken hours Gomez and Dr. Mines chattered and scribbled. Mines gradually shed his jacket, vest and tie, completely oblivious to the rest of us. Gomez was even more abstracted. He *didn't* shed his jacket, vest and tie. He didn't seem to be aware of anything except the rapid-fire exchange of ideas via scribbled formulae and the terse spoken jargon of mathematics. Dr. Mines shifted on his chair and sometimes his voice rose with excitement. Gomez didn't shift or wriggle or cross his legs. He just sat and scribbled and talked in a low, rapid monotone, looking straight at Dr. Mines with his eyes very wide-open and lit up like searchlights.

The rest of us just watched and wondered.

Dr. Mines broke at last. He stood up and said: "I can't take any more, Gomez. I've got to think it over—" He began to leave the room, mechanically scooping up his clothes, and then realized that we were still there.

"Well?" asked the admiral grimly.

Dr. Mines smiled apologetically. "He's a physicist, all right," he said. Gomez sat up abruptly and looked astonished.

"Take him into the next office, Higgins," said the admiral. Gomez let himself be led away, like a sleepwalker.

Dr. Mines began to chuckle. "Security!" he said. "Security!"

The admiral rasped: "Don't trouble yourself over my decisions, if you please, Dr. Mines. My job is keeping the Asians from pirating American science and I'm doing it to the best of my ability. What I want from you is your opinion on the possibility of that young man having worked out the equations as he claimed."

Dr. Mines was abruptly sobered. "Yes," he said. "Unquestionably he did. And will you excuse my remark? I was under some strain in trying to keep up with Gomez."

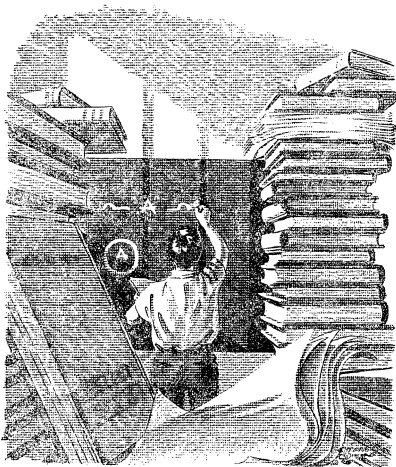
"Certainly," said the admiral, and managed a frosty smile. "Now if you'll be so good as to tell me how this completely impossible thing can have happened—?"

"It's happened before, admiral," said Dr. Mines. "I don't suppose you ever heard of Ramanujan?"

"No."

"*Srinivasa* Ramanujan?"

"No!"



“Oh. Well, Ramanujan was born in 1887 and died in 1920. He was a poor Hindu who failed twice in college and then settled down as a government clerk. With only a single obsolete textbook to go on he made himself a very great mathematician. In 1913 he sent some of his original work to a Cambridge professor. He was immediately recognized and called to England where he was accepted as a first-rank

man, became a member of the Royal Society, a Fellow of Trinity and so forth."

The admiral shook his head dazedly.

"It happens," Dr. Mines said. "Oh yes, it happens. Ramanujan had only one out-of-date book. But this is New York. Gomez has access to all the mathematics he could hope for and a great mass of unclassified and declassified nuclear data. And—genius. The way he puts things together . . . he seems to have only the vaguest notion of what a proof should be. He *sees* relationships as a whole. A most convenient faculty which I envy him. Where I have to take, say, a dozen painful steps from one conclusion to the next he achieves it in one grand flying leap. Ramanujan was like that too, by the way—very strong on intuition, weak on what we call 'rigor.'" Dr. Mines noted with a start that he was holding his tie, vest and coat in one hand and began to put them on. "Was there anything else?" he asked politely.

"One thing," said the admiral. "Would you say he's—he's a better physicist than you are?"

"Yes," said Dr. Mines. "Much better." And he left.

The admiral slumped, uncharacteristically, at the desk for a long time. Finally he said to the air: "Somebody get me the General Manager. No, the Chairman of the Commission." One of his boys grabbed the phone and got to work on the call.

"Admiral," I said, "where do we stand now?"

"Eh? Oh, it's you. The matter's out of my hands now since no security violation is involved. I consider Gomez to be in my custody and I shall turn him over to the Commission so that he may be put to the best use in the nation's interest."

"Like a machine?" I asked, disgusted.

He gave me both barrels of his ice-blue eyes. "Like a weapon," he said evenly.

He was right, of course. Didn't I know there was a cold war on? Of course I did. Who didn't? Taxes, housing shortage, everybody's kid brother sweating out the draft, prices sky-high at the supermarket. Uncomfortably I scratched my unshaved chin and walked to the window. Foley Square below was full of Sunday peace, with only a single girl stroller to be seen. She walked the length of the block across the street from the Federal Building and then turned and walked back. Her walk was dragging and hopeless and tragic.

Suddenly I knew her. She was the pretty little waitress from the Porto Bello; she must have hopped a cab and followed the men who were taking her Julio away. Might as well beat it, sister, I told her silently. Julio isn't just a good-looking kid any more; he's a military asset. The Security Office is turning him over to the policy-level boys

for disposal. When that happens you might as well give up and go home.

It was as if she'd heard me. Holding a silly little handkerchief to her face she turned and ran blindly for the subway entrance at the end of the block and disappeared into it.

At that moment the telephone rang.

"MacDonald here," said the admiral. "I'm ready to report on the Gomez affair, Mr. Commissioner."

Gomez was a minor, so his parents signed a contract for him. The job-description on the contract doesn't matter, but he got a pretty good salary by government standards and a per-diem allowance too.

I signed a contract, too—"Information Specialist." I was partly companion, partly historian and partly a guy they'd rather have their eyes on than not. When somebody tried to cut me out on grounds of economy, Admiral MacDonald frostily reminded him that he had given his word. I stayed, for all the good it did me.

We didn't have any name. We weren't Operation Anything or Project Whoozis or Task Force Dinwiddie. We were just five people in a big fifteen-room house on the outskirts of Milford, New Jersey. There was Gomez, alone on the top floor with a lot of books, technical magazines and blackboards and a weekly visit from Dr. Mines. There were the three Security men, Higgins, Dalhousie and Leitzer, sleeping by turns and prowling the grounds. And there was me.

From briefing sessions with Dr. Mines I kept a diary of what went on. Don't think from that that I knew what the score was. War correspondents have told me of the frustrating life they led at some close-mouthed commands. Soandso-many air sorties, the largest number since January fifteenth. Casualties a full fifteen per cent lighter than expected. Determined advance in an active sector against relatively strong enemy opposition. And so on—all adding up to nothing in the way of real information.

That's what it was like in my diary because that's all they told me. Here are some excerpts: "On the recommendation of Dr. Mines, Mr. Gomez today began work on a phase of reactor design theory to be implemented at Brookhaven National Laboratory. The work involves the setting-up of thirty-five pairs of partial differential equations . . . Mr. Gomez announced tentatively today that in checking certain theoretical work in progress at the Los Alamos Laboratory of the A.E.C. he discovered a fallacious assumption concerning neutron-spin which invalidates the conclusions reached. This will be communicated to the Laboratory . . . Dr. Mines said today that Mr. Gomez has successfully invoked a hitherto-unexploited aspect of Minkowski's tensor

analysis to crack a stubborn obstacle towards the control of thermonuclear reactions . . ."

I protested at one of the briefing sessions with Dr. Mines against this gobbledegook. He didn't mind my protesting. He leaned back in his chair and said calmly: "Vilchek, with all friendliness I assure you that you're getting everything you can understand. Anything more complex than the vague description of what's going on would be over your head. And anything more specific would give away exact engineering information which would be of use to foreign countries."

"This isn't the way they treated Bill Lawrence when he covered the atomic bomb," I said bitterly.

Mines nodded, with a pleased smile. "That's it exactly," he said. "Broad principles were being developed then—interesting things that could be told without any great harm being done. If you tell somebody that a critical mass of U-235 or Plutonium goes off with a big bang, you really haven't given away a great deal. He still has millions of man-hours of engineering before him to figure out how much is critical mass, to take only one small point."

So I took his word for it, faithfully copied the communiques he gave me and wrote what I could on the human-interest side for release some day.

So I recorded Gomez' progress with English, his taste for chicken pot pie and rice pudding, his habit of doing his own housework on the top floor and his old-maidish neatness. "You live your first fifteen years in a tin shack, Beel," he told me once, "and you find out you like things nice and clean." I've seen Dr. Mines follow Gomez through the top floor as the boy swept and dusted, talking at him in their mathematical jargon.

Gomez worked in forty-eight hour spells usually, and not eating much. Then for a couple of days he'd live like a human being grabbing naps, playing catch on the lawn with one or another of the Security people, talking with me about his childhood in Puerto Rico and his youth in New York. He taught me a little Spanish and asked me to catch him up on bad mistakes in English.

"But don't you ever want to get out of here?" I demanded one day.

He grinned: "Why should I, Beel? Here I eat good, I can send money to the parents. Best, I find out what the big professors are up to without I have to wait five-ten years for damn de-classifying."

"Don't you have a girl?"

He was embarrassed and changed the subject back to the big professors.

Dr. Mines drove up then, with his chauffeur who looked like a German and almost certainly was. As usual, the physicist was toting a

bulging briefcase. After a few polite words with me, he and Julio went indoors and upstairs.

They were closeted for five hours—a record. When Dr. Mines came down I expected the usual briefing session. But he begged off. “Nothing serious,” he said. “We just sat down and kicked some ideas of his around. I told him to go ahead. We’ve been—ah—using him very much like a sort of computer, you know. Turning him loose on the problems that were too tough for me and some of the other men. He’s got the itch for research now. It would be very interesting if his forte turned out to be creative.”

I agreed.

Julio didn’t come down for dinner. I woke up in darkness that night when there was a loud bump overhead, and went upstairs in my pyjamas.

Gomez was sprawled, fully dressed, on the floor. He’d tripped over a footstool. And he didn’t seem to have noticed. His lips were moving and he stared straight at me without knowing I was there.

“You all right, Julio?” I asked, and started to help him to his feet.

He got up mechanically and said: “—real values of the zeta function vanish.”

“How’s that?”

He saw me then and asked, puzzled: “How you got in here, Beel? Is dinnertime?”

“Is four A.M., *por dios*. Don’t you think you ought to get some sleep?” He looked terrible.

No; he didn’t think he ought to get some sleep. He had some work to do. I went downstairs and heard him pacing overhead for an hour until I dozed off.

This splurge of work didn’t wear off in forty-eight hours. For a week I brought him meals and sometimes he ate absently, with one hand, as he scribbled on a yellow pad. Sometimes I’d bring him lunch to find his breakfast untouched. He didn’t have much beard, but he let it grow for a week—too busy to shave, too busy to talk, to busy to eat, sleeping in chairs when fatigue caught up with him.

I asked Leitzer, badly worried, if we should do anything about it. He had a direct scrambler-phone connection with the New York Security and Intelligence office, but his orders didn’t cover anything like a self-induced nervous breakdown of the man he was guarding.

I thought Dr. Mines would do something when he came—call in an M.D., or tell Gomez to take it easy, or take some of the load off by parcelling out whatever he had by the tail.

But he didn’t. He went upstairs, came down two hours later and

absently tried to walk past me. I headed him off into my room. "What's the word?" I demanded.

He looked me in the eye and said defiantly: "He's doing fine. I don't want to stop him."

Dr. Mines was a good man. Dr. Mines was a humane man. And he wouldn't lift a finger to keep the boy from working himself into nervous prostration. Dr. Mines liked people well enough, but he reserved his love for theoretical physics. "How important can this thing be?"

He shrugged irritably. "It's just the way some scientists work," he said. "Newton was like that. So was Sir William Rowan Hamilton—"

"Hamilton-Schmamilton," I said. "What's the sense of it? *Why* doesn't he sleep or eat?"

Mines said: "You don't know what it's like."

"Of course," I said, getting good and sore. "I'm just a dumb newspaper man. Tell me, Mr. Bones, what is it like?"

There was a long pause, and he said mildly: "I'll try. That boy up there is using his brain. A great chess player can put on a blind-fold and play a hundred opponents in a hundred games simultaneously, remembering all the positions of his pieces and theirs and keeping a hundred strategies clear in his mind. Well, that stunt simply isn't in the same league with what Julio's doing up there."

"He has in his head some millions of facts concerning theoretical physics. He's scanning them, picking out one here and there, fitting them into new relationships, checking and rejecting when he has to, fitting the new relationships together, turning them upside-down and inside-out to see what happens, comparing them with known doctrine, holding them in his memory while he repeats the whole process and compares—and all the while he has a goal firmly in mind against which he's measuring all these things." He seemed to be finished.

For a reporter, I felt strangely shy. "What's he driving at?" I asked.

"I think," he said slowly, "he's approaching a unified field theory."

Apparently that was supposed to explain everything. I let Dr. Mines know that it didn't.

He said thoughtfully: "I don't know whether I can get it over to a layman—no offense, Vilchek. Let's put it this way. You know how math comes in waves, and how it's followed by waves of applied science based on the math. There was a big wave of algebra in the middle ages—following it came navigation, gunnery, surveying and so on. Then the Renaissance and a wave of analysis—what you'd call calculus. That opened up steam power and how to use it, mechanical engineering,

electricity. The wave of *modern* mathematics since say 1875 gave us atomic energy. That boy upstairs may be starting off the next big wave."

He got up and reached for his hat.

"Just a minute," I said. I was surprised that my voice was steady. "What comes next? Control of gravity? Control of personality? Sending people by radio?"

Dr. Mines wouldn't meet my eye. Suddenly he looked old and shrunken. "Don't worry about the boy," he said.

I let him go.

That evening I brought Gomez chicken pot pie and a non-alcoholic egg nog. He drank the egg nog, said "Hi, Beel," and continued to cover yellow sheets of paper.

I went downstairs and worried.

Abruptly it ended late the next afternoon. Gomez wandered into the big first-floor kitchen looking like a starved old rickshaw coolie. He pushed his lank hair back from his forehead, said: "Beel, what is to eat—" and pitched forward onto the linoleum. Leitzer came when I yelled, expertly took Gomez's pulse, rolled him onto a blanket and threw another one over him. "It's just a faint," he said. "Let's get him to bed."

"Aren't you going to call a doctor, man?"

"Doctor couldn't do anything we can't do," he said stolidly. "And I'm here to see that security isn't breached. Give me a hand."

We got him upstairs and put him to bed. He woke up and said something in Spanish, and then, apologetically: "Very sorry, fellows. I ought to take it easier."

"I'll get you some lunch," I said, and he grinned.

He ate it all, enjoying it heartily, and finally lay back gorged. "Well," he asked me, "what is new, Beel?"

"What *is* new. And you should tell me. You finish your work?"

"I got it in shape to finish. The hard part it is over." He rolled out of bed.

"Hey!" I said.

"I'm okay now," he grinned. "Don't write this down in your history, Beel. Everybody will think I act like a woman."

I followed him into his work room where he flopped into an easy chair, his eyes on a blackboard covered with figures. He wasn't grinning any more.

"Dr. Mines says you're up to something big," I said.

"Si. Big."

"Unified field theory, he says."

"That is it," Gomez said.

"Is it good or bad?" I asked, licking my lips. "The application, I mean."

His boyish mouth set suddenly in a grim line. "That, it is not my business," he said. "I am American citizen of the United States." He stared at the blackboard and its maze of notes.

I looked at it too—*really* looked at it for once—and was surprised by what I saw. Mathematics, of course, I don't know. But I had soaked up a very little *about* mathematics. One of the things I had soaked up was that the expressions of higher mathematics tend to be complicated and elaborate, involving English, Greek and Hebrew letters, plain and fancy brackets and a great variety of special signs besides the plus and minus of the elementary school.

The things on the blackboard weren't like that at all. The board was covered with variations of a simple expression that consisted of five letters and two symbols: a right-handed pothook and a left-handed pothook.

"What do they mean?" I asked, pointing.

"Somethings I made up," he said nervously. "The word for that one is 'enfields.' The other one is 'is enfielded by.'"

"What's *that* mean?"

His lumincus eyes were haunted. He didn't answer.

"It looks like simple stuff. I read somewhere that all the basic stuff is simple once it's been discovered."

"Yes," he said almost inaudibly. "It is simple, Beel. Too damn simple, I think. Better I carry it in my head, I think." He strode to the blackboard and erased it. Instinctively I half-rose to stop him. He gave me a grin that was somehow bitter and unlike him. "Don't worry," he said. "I don't forget it." He tapped his forehead. "I *can't* forget it." I hope I never see again on any face the look that was on his.

"Julio," I said, appalled. "Why don't you get out of here for a while? Why don't you run over to New York and see your folks and have some fun? They can't keep you here against your will."

"They told me I shouldn't—" he said uncertainly. And then he got tough. "You're damn right, Beel. Let's go in together. I get dressed up. Er—You tell Leitzer, hah?" He couldn't quite face up to the hard-boiled security man.

I told Leitzer, who hit the ceiling. But all it boiled down to was that he sincerely wished Gomez and I wouldn't leave. We weren't in the Army, we weren't in jail. I got hot at last and yelled back that we were damn well going out and he couldn't stop us. He called New York on his direct wire and apparently New York confirmed it, regretfully.

We got on the 4:05 Jersey Central, with Higgins and Dalhousie tailing us at a respectful distance. Gomez didn't notice them and I didn't tell him. He was having too much fun. He had a shine put on his shoes at Penn Station and worried about the taxi fare as we rode up to Spanish Harlem.

His parents lived in a neat little three-room apartment. A lot of the furniture looked brand new, and I was pretty sure who had paid for it. The mother and father spoke only Spanish, and mumbled shyly when "*mi amigo Beel*" was introduced. I had a very halting conversation with the father while the mother and Gomez rattled away happily and she poked his ribs to point up the age old complaint of any mother anywhere that he wasn't eating enough.

The father, of course, thought the boy was a janitor or something in the Pentagon and, as near as I could make out, he was worried about his Julio being grabbed off by a man-hungry government girl. I kept reassuring him that his Julio was a good boy, a very good boy, and he seemed to get some comfort out of it.

There was a little spat when his mother started to set the table. Gomez said reluctantly that we couldn't stay, that we were eating somewhere else. His mother finally dragged from him the admission that we were going to the Porto Bello so he could see Rosa, and everything was smiles again. The father told me that Rosa was a good girl, a very good girl.

Walking down the three flights of stairs with yelling little kids playing tag around us, Gomez asked proudly: "You not think they in America only a little time, hey?"

I yanked him around by the elbow as we went down the brownstone stoop into the street. Otherwise he would have seen our shadows for sure. I didn't want to spoil his fun.

The Porto Bello was full, and the pretty little girl was on duty as cashier at the table. Gomez got a last-minute attack of cold feet at the sight of her. "No table," he said. "We better go someplace else."

I practically dragged him in. "We'll get a table in a minute," I said.

"Julio," said the girl, when she saw him.

He looked sheepish. "Hello, Rosa. I'm back for a while."

"I'm glad to see you again," she said tremulously.

"I'm glad to see you again too—" I nudged him. "Rosa, this is my good friend Beel. We work together in Washington."

"Pleased to meet you, Rosa. Can you have dinner with us? I'll bet you and Julio have a lot to talk over."

"Well, I'll see . . . look, there's a table for you. I'll see if I can get away."

We sat down and she flagged down the proprietress and got away in a hurry.

All three of us had *arroz con pollo*—rice with chicken and lots of other things. Their shyness wore off and I was dealt out of the conversation, but I didn't mind. They were a nice young couple. I liked the way they smiled at each other, and the things they remembered happily—movies, walks, talks. It made me feel like a benevolent uncle with one foot in the grave. It made me forget for a while the look on Gomez' face when he turned from the blackboard he had covered with too-simple math.

Over dessert I broke in. By then they were unselfconsciously holding hands. "Look," I said, "why don't you two go on and do the town? Julio, I'll be at the Madison Park Hotel." I scribbled the address and gave it to him. "And I'll get a room for you. Have fun and reel in any time." I rapped his knee. He looked down and I slipped him four twenties. I didn't know whether he had money on him or not, but anything extra the boy could use he had coming to him.

"Swell," he said. "Thanks." And looked shame-faced while I looked paternal.

I had been watching a young man who was moodily eating alone in a corner, reading a paper. He was about Julio's height and build and he wore a sports jacket much like Julio's. And the street was pretty dark outside.

The young man got up moodily and headed for the cashier's table. "Gotta go," I said. "Have fun."

I went out of the restaurant right behind the young man and walked as close behind him as I dared, hoping we were being followed.

After a block and a half of this, he turned on me and snarled: "Wadda you, mister? A wolf? Beat it!"

"Okay," I said mildly, and turned and walked the other way. Higgins and Dalhousie were standing there, flat-footed and open-mouthed. They sprinted back to the Porto Bello, and I followed *them*. But Julio and Rosa had already left.

"Tough, fellows," I said to them as they stood in the doorway. They looked as if they wanted to murder me. "He won't get into any trouble," I said. "He's just going out with his girl." Dalhousie made a strangled noise and told Higgins: "Cruise around the neighbourhood. See if you can pick them up. I'll follow Vilchek." He wouldn't talk to me. I shrugged and got a cab and went to the Madison Park Hotel, a pleasantly unfashionable old place with big rooms where I stay when business brings me to New York. They had a couple of adjoining singles; I took one in my own name and the other for Gomez.

I wandered around the neighbourhood for a while and had a couple of beers in one of the ultra-Irish bars on Third Avenue. After a pleasant argument with a gent who thought the Russians didn't have any atomic bombs and faked their demonstrations and that we ought to blow up their industrial cities tomorrow at dawn, I went back to the hotel.

I didn't get to sleep easily. The citizen who didn't believe Russia could maul the United States pretty badly or at all had started me thinking again—all kinds of ugly thoughts. Dr. Mines who had turned into a shrunken old man at the mention of applying Gomez' work. The look on the boy's face. My layman's knowledge that present-day "atomic energy" taps only the smallest fragment of the energy locked up in the atom. My layman's knowledge that once genius has broken a trail in science, mediocrity can follow the trail.

But I slept at last, for three hours.

At four-fifteen A.M. according to my watch the telephone rang long and hard. There was some switchboard and long-distance-operator mumbo-jumbo and then Julio's gleeful voice: "Beel! Congratulate us. We got marriage!"

"Married," I said fuzzily. "You got *married*, not marriage. How's that again?"

"We got *married*. Me and Rosa. We get on the train, the taxi driver takes us to justice of peace, we got *married*, we go to hotel here."

"Congratulations," I said, waking up. "Lots of congratulations. But you're under age, there's a waiting period—"

"Not in this state," he chuckled. "Here is no waiting periods and here I have twenty-one years if I say so."

"Well," I said. "Lots of congratulations, Julio. And tell Rosa she's got herself a good boy."

"Thanks, Beel," he said shyly. "I call you so you don't worry when I don't come in tonight. I think I come in with Rosa tomorrow so we tell her mama and my mama and papa. I call you at the hotel, I still have the piece of paper."

"Okay, Julio. All the best. Don't worry about a thing." I hung up, chuckling, and went right back to sleep.

Well, sir, it happened again.

I was shaken out of my sleep by the strong, skinny hand of Admiral MacDonald. It was seven-thirty and a bright New York morning. Dalhousie had pulled a blank canvassing the neighbourhood for Gomez, got panicky and bucked it up to higher headquarters.

"Where is he?" the Admiral rasped.

"On his way here with his bride of one night," I said. "He slipped over a couple of state lines and got married."

"By God," the admiral said, "we've got to do something about this. I'm going to have him drafted and assigned to special duty. This is the last time—"

"Look," I said. "You've got to stop treating him like a chesspiece. You've got duty-honour-country on the brain and thank God for that. Somebody has to; it's your profession. But can't you get it through your head that Gomez is a kid and that you're wrecking his life by forcing him to grind out science like a machine? And I'm just a stupe of a layman, but have you professionals worried once about digging too deep and blowing up the whole shebag?"

He gave me a piercing look and said nothing.

I dressed and had breakfast sent up. The admiral, Dalhousie and I waited grimly until noon, and then Gomez phoned up.

"Come on up, Julio," I said tiredly.

He breezed in with his blushing bride on his arm. The admiral rose automatically as she entered, and immediately began tongue-lashing the boy. He spoke more in sorrow than in anger. He made it clear that Gomez wasn't treating his country right. That he had a great talent and it belonged to the United States. That his behaviour had been irresponsible. That Gomez would have to come to heel and realize that his wishes weren't the most important thing in his life. That he could and would be drafted if there were any more such escapades.

"As a starter, Mr. Gomez," the admiral snapped, "I want you to set down, immediately, the enfieldment matrices you have developed. I consider it almost criminal of you to arrogantly and carelessly trust to your memory alone matters of such vital importance. Here!" He thrust pencil and paper at the boy, who stood, drooping and disconsolate. Little Rosa was near crying. She didn't have the ghost of a notion as to what it was about.

Gomez took the pencil and paper and sat down at the writing table silently. I took Rosa by the arm. She was trembling. "It's all right," I said. "They can't do a thing to him." The admiral glared briefly at me and then returned his gaze to Gomez.

The boy made a couple of tentative marks. Then his eyes went wide and he clutched his hair. "*Dios mio!*" he said. "*Esta perdido! Olvidado!*"

Which means: "My God, it's lost! Forgotten!"

The admiral turned white beneath his tan. "Now, boy," he said slowly and soothingly. "I didn't mean to scare you. You just relax and collect yourself. Of course you haven't forgotten, not with that memory of yours. Start with something easy. Write down a general biquadratic equation, say."

Gomez just looked at him. After a long pause he said in a strangled voice: "*No puedo*. I can't. It too I forget. I don't think of the math or physics at all since—" He looked at Rosa and turned a little red. She smiled shyly and looked at her shoes.

"That is it," Gomez said hoarsely. "Not since then. Always before in the back of my head is the math, but not since then."

"My God," the admiral said softly. "Can such a thing happen?" He reached for the phone.

He found out that such things can happen.

Julio went back to Spanish Harlem and bought a piece of the Porto Bello with his savings. I went back to the paper and bought a car with my savings. MacDonald never cleared the story, so the Sunday editor had the satisfaction of bulldozing an admiral, but didn't get his exclusive.

Julio and Rosa sent me a card eventually announcing the birth of their first-born: a six-pound boy, Francisco, named after Julio's father. I saved the card and when a New York assignment came my way—it was the National Association of Dry Goods Wholesalers; dry goods are important in our town—I dropped up to see them.

Julio was a little more mature and a little more prosperous. Rosa—alas!—was already putting on weight, but she was still a pretty thing and devoted to her man. The baby was a honey-skinned little wiggler. It was nice to see all of them together, happy with their lot.

Julio insisted that he'd cook *arroz con pollo* for me, as on the night I practically threw him into Rosa's arms, but he'd have to shop for the stuff. I went along.

In the corner grocery he ordered the rice, the chicken, the garbanzos, the peppers and, swept along by the enthusiasm that hits husbands in groceries, about fifty other things that he thought would be nice to have in the pantry.

The creaking old grocer scribbled down the prices on a shopping bag and began painfully to add them up while Julio was telling me how well the Porto Bello was doing and how they were thinking of renting the adjoining store.

"Seventeen dollars, forty-two cents," the grocer said at last.

Julio flicked one glance at the shopping bag and the upsidedown figures. "Should be seventeen thirty-nine," he said reprovingly. "Add up again."

The grocer painfully added up again and said. "Is seventeen thirty-nine. Sorry." He began to pack the groceries into the bag.

"Hey," I said.

We didn't discuss it then or ever. Julio just said: "Don't tell, Beel." And winked.

C. M. Kornbluth