

## THE HIGH TEST

Fredrik Pohl

Of all the science-fiction writers who inspired and delighted my youth, the one who most completely saturated the pleasure centers of my brain was the late Edward Elmer Smith, Ph.D. I wasn't the only one who felt that. Doc Smith invented the "space opera, the high-tech deep-space adventuring that set the style for everything from John Campbell's first stories to *Star Wars* and beyond. It's a crying shame that Doc's *The Skylark of Space* has never been made into a movie; it's as thrilling and colorful as the best of them, and a lot more intelligently imagined. One of the joys of growing up to be an editor was that I was able to get Doc to write new stories for me ("Skylark DuQuesne was the most important of them), so that I could carry on into middle age the joys of my youth. When Doc died, I mourned deeply. His daughter and son-in-law, Verna and Albert Trestrail, are long-term and well-loved friends and when, a summer or two ago, I stayed for a few days at their comfortable home in central Indiana, I was enchanted to find that Verna still owned Doc's own personal typewriter, a four-square old Woodstock as big as a breadbasket. Could I write a story on it? I begged. Of course, Verna answered, and kindly kept my coffee cup filled and fresh ashtrays within reach as, over two long days, I wrote the first draft of "The High Test. The former cabin boy had grown to command the *Q.E. 2!* Of course, "The High Test is not exactly a Doc Smith story. But it's not exactly a typical Fred Pohl story, either, and I expect the reason is that I was thinking of Doc all the time I was writing it.

2213 12 22 1900UGT

Dear Mom:

As they say, there's good news and there's bad news here on Cassiopeia 43-G. The bad news is that there aren't any openings for people with degrees in quantum-mechanical astrophysics. The good news is that I've got a job. I started yesterday. I work for a driving school, and I'm an instructor.

I know you'll say that's not much of a career for a twenty-six-year-old man with a doctorate, but it pays the rent. Also it's a lot better than I'd have if I'd stayed on Earth. Is it true that the unemployment rate in Chicago is up to eighty percent? Wow! As soon as I get a few megabucks ahead I'm going to invite you all to come out here and visit me in the sticks so you can see how we live here—you may not want to go back!

Now, I don't want you to worry when I tell you that I get hazardous duty pay. That's just a technicality. We driving instructors have it in our contracts, but we don't really earn it. At least, usually we don't—although there are times like yesterday. The first student I had was this young girl, right from Earth. Spoiled rotten! You know the kind, rich, and I guess you'd say beautiful, and really used to having her own way. Her name's Tonda Aguilar—you've heard of the Evanston Aguilars? In the recombinant foodstuff business? They're really rich, I guess. This one had her own speedster, and she was really sulking that she couldn't drive it on an Earth license. See, they have this suppressor field; as soon as any vehicle comes into the system, zap, it's off, and it just floats until some licensed pilot comes out to fly it in. So I took her up, and right away she started giving me ablation: "Not so much takeoff boost! You'll burn

out the tubes!and "Don't ride the reverter in hyperdrive !and "Get out of low orbit- you want to rack us up?

Well, I can take just so much of that. An instructor is almost like the captain of a ship, you know. He's the boss! So I explained to her that my name wasn't " Chowderheador " Dullwit!but James Paul Madigan, and it was the instructors who were supposed to yell at the students, not the other way around. Well, it washer own speedster, and a really neat one at that. Maybe I couldn't blame her for being nervous about somebody else driving it. So I decided to give her a real easy lesson. Practicing parking orbits-if you can't do that, you don't deserve a license! And she was really rotten at it. It looks easy, but there's an art to cutting the hyperdrive with just the right residual velocity, so that you slide right into your assigned coordinates. The more she tried, the farther off she got. Finally she demanded that I take her back to the spaceport. She said I was making her nervous. She said she'd get a different instructor for tomorrow or she'd just move on to some other system where they didn't have benefacted chimpanzees giving driving lessons.

I just let her rave. Then the next student I had was a Fomalhautian . You know that species, they've got two heads and scales and forked tails, and they're always making a nuisance of themselves in the United Systems? If you believe what they say on the vidcom , they're bad news-in fact, the reason Cassiopeia installed the suppressor field was because they had a suspicion the Fomalhautians were thinking about invading and taking over 43-G. But this one was nice as pie!Followed every instruction. Never gave me any argument.Apologized when he made a mistake and got us too close to one of the mini- black holes near the primary. He said that was because he was unfamiliar with the school ship, and said he'd prefer to use his own space yacht for the next lesson. He made the whole day better, after that silly, spoiled rich brat!

I was glad to have a little cheering up, to tell you the truth. I was feeling a little lonesome and depressed. Probably it's because it's so close to the holidays. It's hard to believe that back in Chicago it's only three days until Christmas, and all the store windows will be full of holodecorations and there'll be that big tree in Grant Park and I bet it's snowing. . . and here on Cassiopeia 43-G it's sort of like a steam bath with interludes of Niagara Falls.

I do wish you a merry Christmas, Mom! Hope my gifts got there all right.

Love,

Jim Paul

2213 12 2~ LATE

Dear Mom:

Well, Christmas Day is just about over. Not that it's any different from any other day here on 43-G, where the human colonists were mostly Buddhist or Moslem and the others were-well! You've seen the types that hang around the United Systems building in Palatine-smelled them, too, right?Especially those Arcturans . I don't know whether those people have any religious holidays or not, and I'm pretty sure I don't *want* to know.

Considering that I had to work all day, it hasn't been such a bad Christmas at that. When I mentioned to Torklemiggen -he's the Fomalhautian I told you about-that today was a big holiday for us, he sort of laughed and said that mammals had really quaint customs. And when he found out that part of the custom was to exchange gifts, he thought for a minute. (The way Fomalhautians think tothemselves is that their

heads whisper in each other's ear-really grotesque!) Then he said that he had been informed it was against the law for a student to give anything to his driving instructor, but if I wanted to fly his space yacht myself for a while he'd let me do it. And he would let it go down on the books of the school as instruction time, so I'd get paid for it. Well, you bet I wanted to! He has some swell yacht. It's long and tapered, sort of shark-shape, like the TU-Lockheed 4400 series, with radar-glyph vision screens and a cruising range of nearly 1,800 l.y . I don't know what its top speed is- after all, we had to stay in our own system!

We were using his own ship, you see, and of course it's Fomalhautian -made. Not easy for a human being to fly! Even though I'm supposed to be the instructor and Torklemiggen the student, I was baffled at first. I couldn't even get it off the ground until he explained the controls to me and showed me how to read the instruments. There's still plenty I don't know, but after a few minutes I could handle it well enough not to kill us out of hand. Torklemiggen kept daring me to circle the black holes. I told him we couldn't do that, and he got this kind of sneer on one of his faces, and the two heads sort of whispered together for a while. I knew he was thinking of something cute, but I didn't know what at first.

Then I found out!

You know that CAS 43, our primary, is a red giant star with an immense photosphere. Torklemiggen bragged that we could fly right through the photosphere! Well, of course I hardly believed him, but he was so insistent that I tried it out. He was right! We just greased right through that thirty-thousand-degree plasma like nothing at all! The hull began to turn red, then yellow, then straw- colored-you could see it on the edges of the radar-glyph screen-and yet the inside temperature stayed right on the button of 40 degrees Celsius. That's 43-G normal, by the way. Hot, if you're used to Chicago , but nothing like it was outside! And when we burst out into vacuum again there was no thermal shock, no power surge, no instrument fog. Just beautiful! It's hard to believe that any individual can afford a ship like this just for his private cruising. I guess Fomalhaut must have some pretty rich planets!

Then when we landed, more than an hour late, there was the Aguilar woman waiting for me. She had found out that the school wouldn't let her change instructors once assigned. I could have told her that; it's policy. So she had to cool her heels until I got back. But I guess she had a little Christmas spirit somewhere in her ornery frame, because she was quite polite about it. As a matter of fact, when we had her doing parking orbits, she was much improved over the last time. Shows what a first-class instructor can do for you!

Well, I see by the old chronometer on the wall that it's the day after Christmas now, at least Universal-Greenwich Time it is, though I guess you've still got a couple of hours to go in Chicago. One thing, Mom. The Christmas packages you sent didn't get here yet. I thought about lying to you and saying they'd come and how much I liked them, but you raised me always to tell the truth. (Besides, I didn't know what to thank you for!) Anyway, merry Christmas one more time from-  
Jim Paul

2213 12 30 O2001JGT

Dear Mom:

Another day, another kilobuck .My first student today was a sixteen-year-old kid. One of those smart-alecky ones, if you know what I mean. (But you probably don't, because you certainly never had any kids like that!) His father was a combat pilot in the Cassiopeian navy, and the kid drove that way, too. That wasn't the worst of it. He'd heard about Torklemiggen . When I tried to explain to him that he had to learn how to go slow before he could go fast, he really let me have it. Didn't I know his father said the Fomalhautians were treacherous enemies of the Cassiopeian way of life'? Didn't I know his father

said they were just waiting their chance to invade? Didn't I know-

Well, I could take just so much of this fresh kid telling me what I didn't know. So I told him he wasn't as lucky as Torklemiggen . He only had one brain, and if he didn't use all of it to fly this ship, I was going to wash him out. That shut him up pretty quick, you bet!

But it didn't get much better, because later on I had this fat lady student who just oughtn't to get a license for anything above a skateboard. Forty-six years old, and she's never driven before-but her husband's got a job asteroid mining, and she wants to be able to bring him a hot lunch every day. I hope she's a better cook than a pilot! Anyway, I was trying to put her at ease, so she wouldn't pile us up into a comet nucleus or something, so I was telling her about the kid. She listened, all sympathy-you know, how teenage kids were getting fresher every year-until I mentioned that what we were arguing about was my Fomalhautian student. Well, you should have heard her then! I swear, Mom, I think these Cassiopeians are psychotic on the subject. I wish Torklemiggen were here so I could talk to him about it-somebody said the reason CAS 43-G put the suppressor system in in the first place was to keep them from invading, if you can imagine that! But he had to go home for a few days. Business, he said. Said he'd be back next week to finish his lessons.

TondaAguilar is almost finished, too. She'll solo in a couple of days. She was my last student today-I mean yesterday actually, because it's way after midnight now. I had her practicing zero-G approaches to low-mass asteroids, and I happened to mention that I was feeling a little lonesome. It turned out she was, too, so I surprised myself by asking her if she was doing anything tomorrow night, and she surprised me by agreeing to a date. It's not romance, Mom, so don't get your hopes up. It's just that she and I seem to be the only beings in this whole system who know that tomorrow is New Year's Eve!

Love,

Jim Paul

2214 01 02 2330UGT

Dear Mom:

I got your letter this morning, and I'm glad that your leg is better. Maybe next time you'll listen to Dad and me! Remember, we both begged you to go for a brand- new factory job when you got it, but you kept insisting a rebuilt would be just as good. Now you see. It never pays to try to save money on your health!

I'm sorry if I told you about my clients without giving you any idea of what they looked like. For Tonda , that's easy enough to fix. I enclose a holo of the two of us which we took this afternoon, celebrating the end of her lessons. She solos tomorrow. As you can see, she is a really good- looking woman, and I was wrong about her being spoiled. She came out here on her own to make her career as a dermatologist. She wouldn't take any of her old man Aguilar's money, so all she had when she got here was her speedster and her degree and the clothes on her back. I really admire her. She connected right away with one of the best body shops in town, and she's making more money than I am.

As to Torklemiggen , that's harder. I tried to make a holopic of him, but he got really upset, you might even say nasty. He said inferior orders have no right to worship a Fomalhautian's image, if you can believe it! I tried to explain that we didn't have that in mind at all, but he just laughed. He has a mean laugh. In fact, he's a lot different since he came back from Fomalhaut on that business trip. Meaner. I don't mean that he's different physically. Physically he's about a head taller than I am, except that he has

two of them. Two heads, I mean. The head on his left is for talking and breathing, the one on his right for eating and showing expression. It's pretty weird to see him telling a joke. His jokes are pretty weird all by themselves, for that matter. I'll give you an example. This afternoon he said, ~What's the difference between a mammal and a roasted hagensbiffik with murgry sauce? And when I said I didn't even know what those things were, much less what the difference was, he laughed himself foolish and said, "No difference! What a spectacle. There was his left-hand head talking and sort of yapping that silly laugh of his, deadpan, while the right-hand head was all creased up with giggle lines. Some sense of humor . I should have told you that Torklemiggen's left-hand head looks kind of like a chimpanzee's, and the right one is a little bit like a fox's. Or maybe an alligator's, because of the scales. Not pretty, you understand. But you can't say that about his ship! It's as sweet a job as I've ever driven. I guess he had some extra accessories put on it while he was home, because I noticed there were five or six new readouts and some extra hand controls. When I asked him what they were for, he said they had nothing to do with piloting and I would find out what they were for soon enough. I guess that's another Fomalhautian joke of some kind?

Well, I'd write more, but I have to get up early in the morning. I'm having breakfast with Tonda to give her some last-minute run-throughs before she solos. I think she'll pass all right. She surely has a lot of smarts for somebody who was a former MissIllinois !

Love,

Jim Paul

2214 01 03 LATE

Dear Mom:

Your Christmas package got here today, and it was really nice. I loved the socks. They'll come in real handy in case I come back to Chicago for a visit before it gets warm. But the cookies were pretty crumbled, I'm afraid- delicious, though! Tonda said she could tell that they were better than anything she could bake, before they went through the CAS 43-G customs, I mean.

Torklemiggen is just about ready to solo. To tell you the truth, I'll be glad to see the last of him. The closer he gets to his license, the harder he is to get along with.

This morning he began acting crazy as soon as we got into high orbit. We were doing satellite-matching curves. You know, when you come in on an asymptotic tractrix curve, just whistling through the upper atmosphere of the satellite and then back into space. Nobody ever does that when they're actually driving, because what is there on a satellite in this system that anybody would want to visit? But they won't pass you for a license if you don't know how.

The trouble was, Torklemiggen thought he already did know how, better than I did. So I took the controls away to show him how, and that really blew his cool. "I could shoot better curves than you in my fourth instar , he snarled out of his left head, while his right head was looking at me like a rattlesnake getting ready to strike. I mean, mean. Then, when I let him have the controls back, he began shooting curves at one of the mini-black holes. Well, that's about the biggest no-no there is. "Stop that right now, I ordered." We can't go within a hundred thousand miles of one of those things! How'd you pass your written test without knowing that?

"Do not exceed your life station, mammal, he snapped, and dived in toward the hole again, his forehands on the thrust and roll controls while his hindhands reached out to fondle the buttons for the new

equipment. And all the time his left-hand head was chuckling and giggling like some fiend out of a monster movie.

"If you don't obey instructions, I warned him, "I will not approve you for your solo. Well, that fixed him. At least he calmed down. But he sulked for the rest of the lesson. Since I didn't like the way he was behaving, I took the controls for the landing. Out of curiosity I reached to see what the new buttons were."Severely handicapped mammalian species!his left head screeched, while his right head was turning practically pale pink with terror, "do you want to destroy this planet?"

I was getting pretty suspicious by then, so I asked him straight out: "What is this stuff, some kind of weapons?"

That made him all quiet. His two heads whispered to each other for a minute, then he said, very stiff and formal, "Do you speak to me of weapons when you mammals have these black holes in orbit? Have you considered their potential for weaponry? Can you imagine what one of them would do, directed toward an inhabited planet? He paused for a minute, then he said something that really started me thinking. "Why, he asked, "do you suppose my people have any wish to bring culture to this system, except to demonstrate the utility of these objects?"

We didn't talk much after that, but it was really on my mind.

After work, when Tonda and I were sitting in the park, feeding the flying crabs and listening to the singing trees, I told her all about it. She was silent for a moment. Then she looked up at me and said seriously, "Jim Paul, it's a rotten thing to say about any being, but it almost sounds as though Torklemiggen has some idea about conquering this system.

"Now, who would want to do something like that? I asked.

She shrugged. "It was just a thought, she apologized. But we both kept thinking about it all day long, in spite of our being so busy getting our gene tests and all-but i'll tell you about that later!"

Love,

Jim Paul

2214 01 05 2200UGT

Dear Mom:

Take a good look at this date, the fifth of January, because you're going to need to remember it for a while! There's big news from CAS 43-Gtonight. . . but first, as they say on the tube, a few other news items.

Let me tell you about that bird Torklemiggen . He soloed this morning. I went along as check pilot, in a school ship, flying matching orbits with him while he went through the whole test in his own yacht. I have to admit that he was really nearly as good as he thought he was. He slid in and out of hyperdrive without any power surge you could detect. He kicked his ship into a corkscrew curve and killed all the drives, so he was tumbling and rolling and pitching all at once, and he got out of it into a clean orbit using only the side thrusters He matched parking orbits-he ran the whole course without a flaw. I was still sore at him, but there just wasn't any doubt that he'd shown all the skills he needed to get a license. So I called him on the private TBS frequency and said, "You've passed, Torklemiggen . Do you want a formal written

report when we land, or shall I call in to have your license granted now?

"Now this instant, mammal! he yelled back, and added something in his own language. I didn't understand it, of course. Nobody else could hear it, either, because the talk-between-ships circuits don't carry very far. So I guess I'll never know just what it is he said, but honestly, Mom, it surely didn't sound at all friendly. All the same, he'd passed.

So I ordered him to null his controls, and then I called in his test scores to the master computer on 43-G. About two seconds later he started screeching over the TBS, "Vile mammal! What have you done? My green light's out, my controls won't respond, is this some treacherous warm-blood trick?

He sure had a way of getting under your skin. "Take it easy, Torklemiggen, I told him, not very friendly- he was beginning to hurt my feelings." The computer is readjusting your status. They've removed the temporary license for your solo, so they can lift the suppressor field permanently. As soon as the light goes on again you'll be fully licensed, and able to fly anywhere in this system without supervision.

"Hah, he grumbled, and then for a moment I could hear his heads whispering together. Then-well, Mom, I was going to say he laughed out loud over the TBS. But it was more than a laugh. It was mean, and gloating. "Depraved retarded mammal, he shouted, "my light is on-and now all of Cassiopeia is mine!

I was really disgusted with him. You expect that kind of thing, maybe, from some spacehappy sixteen-year-old who's just got his first license. Not from an eighteen- hundred-year-old alien who has flown all over the galaxy. It sounded sick! And sort of worrisome, too. I wasn't sure just how to take him. "Don't do anything silly, Torklemiggen, I warned him over the TBS.

He shouted back: "Silly? I do nothing silly, mammal! Observe how little silly I am! And the next thing you know he was whirling and diving into hyperspace-no signal, nothing! I had all I could do to follow him, six alphas deep and going fast. For all I knew we could have been on our way back to Fomalhaut. But he only stayed there for a minute. He pulled out right in the middle of one of the asteroid belts, and as I followed up from the alphas I saw that lean, green yacht of his diving down on a chunk of rock about the size of an office building.

I had noticed, when he came back from his trip, that one of the new things about the yacht was a circle of ruby- colored studs around the nose of the ship. Now they began to glow, brighter and brighter. In a moment a dozen streams of ruby light reached out from them, ahead toward the asteroid-and there was a bright flare of light, and the asteroid wasn't there anymore!

Naturally, that got me upset. I yelled at him over the TBS: "Listen, Torklemiggen, you're about to get yourself in real deep trouble! I don't know how they do things back on Fomalhaut. but around here that's grounds for an action to suspend your license! Not to mention they could make you pay for that asteroid!

"Pay? he screeched. "It is not I who will pay, functionally inadequate live-bearer, it is you and yours! You will pay most dreadfully, for now we have the black holes! And he was off again, back down into hyperspace, and one more time it was about all I could do to try to keep up with him.

There's no sense trying to transmit in hyperspace, of course. I had to wait until we were up out of the alphas to answer him, and by that time, I don't mind telling you, I was *peev*ed. I never would have found him on visual, but the radar-glyph picked him up zeroing in on one of the black holes. What a moron! "Listen, Torklemiggen, I said, keeping my voice level and hard, "I'll give you one piece of advice. Go back to base. Land your ship. Tell the police you were just carried away, celebrating passing your test.

Maybe they won't be too hard on you. Otherwise, I warn you, you're looking at a thirty-day suspension, plus you could get a civil suit for damages from the asteroid company. He just screeched that mean laughter. I added. "And I told you, keep away from the black holes!

He laughed some more and said, "Oh, lower than a smiggstroffle, what delightfully impudent pets you mammals will make now that we have these holes for weapons-and what joy it will give me to train you! He was sort of singing to himself more than to me, I guess. "First reduce this planet! Then the suppressor field is gone, and our forces come in to prepare the black holes! Then we launch one on every inhabited planet until we have destroyed your military power. And then-

He didn't finish that sentence, just more of that chuckling, cackling, *mean* laugh.

I felt uneasy. It was beginning to look as though Torklemiggen was up to something more than just high jinks and deviltry. He was easing up on the black hole and kind of crooning to himself, mostly in that foreign language of his but now and then in English: "Oh, my darling little assault vessel, what destruction you will wreak! Ah, charming black hole, how catastrophic you will be! How foolish these mammals who think they can forbid me to come near you- Then, as they say, light dawned. " Torklemiggen, I shouted, "you've got the wrong idea. It's not just a traffic regulation that we have to stay away from black holes. It's a lot more serious than that!

But I was too late. He was inside the Roche limit before I could finish.

I almost hate to tell you what happened next. It was pretty gross. The tidal forces seized his ship, and they stretched it.

I heard one caterwauling astonished yowl over the TBS. Then his transmitter failed. The ship ripped apart, and the pieces began to rain down into the Schwarzschild boundary and plasmaed. There was a quick, blinding flash of fall-in energy from the black hole, and that was all Torklemiggen would ever say or do or know.

I got out of there as fast as I could. I wasn't really feeling very sorry for him, either. The way he was talking there toward the end, he sounded as though he had some pretty dangerous ideas.

When I landed it was sundown at the field, and people were staring and pointing toward the place in the sky where Torklemiggen had smeared himself into the black hole. All bright purplish and orangey plasma clouds-it made a really beautiful sunset, I'll say that much for the guy! I didn't have time to admire it, though, because Tonda was waiting, and we just had minutes to get to the Deputy Census Director, Division of Reclassification, before it closed.

But we made it.

Well, I said I had big news, didn't I? And that's it, because now your loving son is

Yours truly,

James Paul Aguilar-Madigan,

thenewlywed!