

You see, it wasn't **our** **their** fault. **We** **they** had no idea anything was wrong until **I** **Bill** called **Cliff Anderson** and spoke to **him** when **he** wasn't there. What's more, **I** **Bill** would not have known **he** wasn't there, if it wasn't that **he** walked in while **I** **Bill** was talking to **him**.

No, no, no, no

I never seem to be able to tell this straight. **I** get too excited. Look, **I** might as well begin at the beginning. **I** **He** **am** **is** **Bill** Billings; **my** **his** friend is **Cliff Anderson**. **I** **Bill** **am** **is** an electrical engineer, **he** **Cliff** is a mathematician, and **we** **they**'re on the faculty of Midwestern Institute of Technology. Now you know who **we** **they** are.

Ever since **we** **they** got out of uniform, **Cliff** and **I** **Bill** have been working on calculating machines. You know what they are. **Norbert Wiener** popularized them in **his** book, Cybernetics. If you've seen pictures of them, you know that they're great big things. They take up a whole wall and they're very complicated; also expensive.

But **Cliff** and **I** **Bill** had ideas. You see, what makes a thinking machine so big and expensive is that it has to be full of relays and vacuum tubes just so that microscopic electric currents can be controlled and made to flicker on and off, here and there. Now the really important things are those little electric currents, so

I **Bill** once said to **Cliff**, " Why can't we control the currents without all the salad dressing? "

Cliff said, " Why not, indeed, " and started working on the mathematics.

How **we** **they** got where **we** **they** did in two years is no matter. It's what **we** **they** got after **we** **they** finished that made the trouble. It turned out that **we** **they** ended with something about this high and maybe so wide and just about this deep-

No, no. **I** forget that you can't see **me**. **I** will give you the figures. It was about three feet high, six feet long, and two feet deep. Got that? It took two men to carry it but it could be carried and that was the point. And still, mind you, it could do anything the wall size calculators could. Not as fast, maybe, but **we** **Bill and Cliff** were still working.

We **they** had big ideas about that thing, the very biggest. **We** **they** could put it on ships or airplanes. After a while, if **we** **they** could make it small enough, an automobile could carry one.

We **they** were especially interested in the automobile angle. Suppose you had a little thinking machine on the dashboard, hooked to the engine and battery and equipped with photoelectric eyes. It could choose an ideal course, avoid cars, stop at red lights, pick the optimum speed for the terrain. Everybody could sit in the back seat and automobile accidents would vanish.

All of it was fun. There was so much excitement to it, so many thrills every time **we** **they**

worked out another consolidation, that I **Bill** could still cry when I **he think thinks** of the time I **he** picked up the telephone to call **our their** lab and tumbled everything into the discard.

I **He** was at **Mary Ann's** house that evening - Or have I told you about **Mary Ann** yet? No. I guess I have not.

Mary Ann was the girl who would have been **my Bill's** fiancée but for two ifs. One, if **she** were willing, and two, if I **he** had the nerve to ask **her**. **She** has red hair and crams something like two tons of energy into about 110 pounds of body which fills out very nicely from the ground to five and a half feet up. I **Bill** was dying to ask **her**, you understand, but each time I **he** would see **her** coming into sight, setting a match to **my his** heart with every movement, I **he** would just break down.

It's not that I **he am is** not good-looking. People tell **me him** I **he am is** adequate. I **He have has** got all **my his** hair; I **he am is** nearly six feet tall; I **he** can even dance. It's just that I **he have has** nothing to offer. I do not have to tell you what college teachers make. With inflation and taxes, it amounts to just about nothing. Of course, if **we they** got the basic patents rolled up on **our their** little thinking machine, things would be different. But I **he** could not ask **her** to wait for that, either. Maybe, after it was all set - Anyway, I **Bill** just stood there, wishing, that evening, as **she** came into the living room. **My his** arm was groping blindly for the phone.

Mary Ann said, " I'm all ready, Bill. Let's go. "

I **he** said, " Just a minute. I want to ring up Cliff. "

She frowned a little, " Can't it wait? "

" I was supposed to call him two hours ago, " I **he** explained.

It only took two minutes. I **he** rang the lab. **Cliff** was putting in an evening of work and so **he** answered. I **Bill** asked something, then **he Cliff** said something, I **Bill** asked some more and **he Cliff** explained. The details don't matter, but as I said, **he Cliff** is the mathematician of the combination. When I **Bill build builds** the circuits and **put puts** things together in what look like impossible ways, **he Cliff** is the guy who shuffles the symbols and tells **me Bill** whether they're really impossible. Then, just as I **Bill** finished and hung up, there was a ring at the door.

For a minute, I **Bill** thought **Mary Ann** had another caller and got sort of stiff-backed as I **he** watched **her** go to the door. I **he** was scribbling down some of what **Cliff** had just told **me him** while I **he** watched. But then **she** opened the door and it was only **Cliff Anderson** after all.

He said, " I thought I'd find you here - Hello, Mary Ann. Say, weren't you going to ring me at

six? You're as reliable as a cardboard chair. " **Cliff** is short and plump and always willing to start a fight, but I **Bill** know **knows** **him** and **pay** **pays** no attention.

I **Bill** said, " Things turned up and it slipped my mind. But I just called, so what's the difference? "

" Called? Me? When? "

I **Bill** started to point to the telephone and gagged. Right then, the bottom fell out of things. Exactly five seconds before the doorbell had sounded I **he** had been on the phone talking to **Cliff** in the lab, and the lab was six miles away from **Mary Ann's** house.

I **He** said, " I - just spoke to you. "

I **he** was not getting across. **Cliff** just said, " To me? " again.

I **Bill** was pointing to the phone with both hands now, " On the phone. I called the lab. On this phone here! Mary Ann heard me. Mary Ann, wasn't I just talking to - "

Mary Ann said, " I don't know whom you were talking to. - Well, shall we go? " That's **Mary Ann**. **She**'s a stickler for honesty.

I **Bill** sat down. I **he** tried to be very quiet and clear. I **he** said, " Cliff, I dialed the lab's phone number, you answered the phone, I asked you if you had the details worked out, you said, yes, and gave them to me. Here they are. I wrote them down. Is this correct or not? "

I **he** handed **him** **Cliff** the paper on which I **he** had written the equations.

Cliff looked at them. **He** said, " They're correct. But where could you have gotten them? You didn't work them out yourself, did you? "

" I just told you. You gave them to me over the phone. "

Cliff shook **his** head, " Bill, I haven't been in the lab since seven fifteen. There's nobody there. "

" I spoke to somebody, I tell you. "

Mary Ann was fiddling with **her** gloves. " We're getting late, " **she** said.

I **Bill** waved **my** **his** hands at **her** to wait a bit, and said to **Cliff**, " Look, are you sure - "

" There's nobody there, unless you want to count Junior. " Junior was what we they called our their pint sized mechanical brain.

We they stood there, looking at one another. Mary Ann's toe was still hitting the floor like a time bomb waiting to explode.

Then Cliff laughed. He said, " I'm thinking of a cartoon I saw, somewhere. It shows a robot answering the phone and saying, 'Honest, boss, there's nobody here but us complicated thinking machines.' "

I Bill did not think that was funny. I he said, " Let's go to the lab. "

Mary Ann said, " Hey! We will not make the show. "

I Bill said, " Look, Mary Ann, this is very important. It's just going to take a minute. Come along with us and we'll go straight to the show from there. "

She said, " The show starts - " And then she stopped talking, because I Bill grabbed her wrist and we they left.

That just shows how excited I he was. Ordinarily, I he would not ever have dreamed of shoving her around. I mean, Mary Ann is quite the lady. It's just that I he had so many things on my his mind. I he do does not even really remember grabbing her wrist, come to think of it. It's just that the next thing I he knew, I he was in the auto and so was Cliff and so was she, and she was rubbing her wrist and muttering under her breath about big gorillas.

I he said, " Did I hurt you, Mary Ann? "

She said, " No, of course not. I have my arm yanked out of its socket every day, just for fun. " Then she kicked me him in the shin.

She only does things like that because she has red hair. Actually, she has a very gentle nature, but she tries very hard to live up to the redhead mythology. I Bill see sees right through that, of course, but I he humor humors her, poor kid.

We they were at the laboratory in twenty minutes.

The Institute is empty at night. It's emptier than a building would ordinarily be. You see, it's designed to have crowds of students rushing through the corridors and when they aren't there, it's unnaturally lonely. Or maybe it was just that I Bill was afraid to see what might be sitting in our their laboratory upstairs. Either way, footsteps were uncomfortably loud and the self

service elevator was downright dingy.

I **he** said to **Mary Ann**, " This will not take long. " But **she** just sniffed and looked beautiful.

She can't help looking beautiful.

Cliff had the key to the laboratory and I **Bill** looked over **his** shoulder when **he** opened the door. There was nothing to see. **Junior** was there, sure, but **he** looked just as **he** had when I **Bill** saw **him** last. The dials in front registered nothing and except for that, there was just a large box, with a cable running back into the wall socket.

Cliff and I **Bill** walked up on either side of **Junior**. I think **we they** were planning to grab it if it made a sudden move. But then **we they** stopped because **Junior** just wasn't doing anything. **Mary Ann** was looking at it, too. In fact, **she** ran **her** middle finger along its top and then looked at the finger tip and twiddled it against **her** thumb to get rid of the dust.

I **Bill** said, " Mary Ann, don't you go near it. Stay at the other end of the room. " **She** said, " It's just as dirty there. "

She'd never been in **our their** lab before, and of course **she** didn't realize that a laboratory wasn't the same thing as a baby's bedroom, if you know what I mean. **The janitor** comes in twice a day and all **he** does is empty the waste baskets. About once a week, **he** comes in with a dirty mop, makes mud on the floor, and shoves it around a little.

Cliff said, " The telephone isn't where I left it. " ! ! I **Bill** said, " How do you know? "

" Because I left it there. " **He** pointed. " And now it's here. "

If **he** were right, the telephone had moved closer to **Junior**. I **Bill** swallowed and said, " Maybe you don't remember right. " I **he** tried to laugh without sounding very natural and said, " Where's the screw driver? "

" What are you going to do? "

" Just take a look inside. For laughs. "

Mary Ann said, " You'll get yourself all dirty. " So I **Bill** put on **my his** lab coat. **She**'s a very thoughtful girl, **Mary Ann**.

I **he** got to work with a screw driver. Of course, once **Junior** was really perfected, **we they** were going to have models manufactured in welded, one piece cases. **We they** were even thinking of

molded plastic in colors, for home use. In the lab model, though, **we they** held it together with screws so that **we they** could take it apart and put it together as often as **we they** wanted to.

Only the screws weren't coming out. **I Bill** grunted and yanked and said, " Some joker was putting his weight on these when he screwed these things in. "

Cliff said, " You're the only one who ever touches the thing. "

He was right, too, but that didn't make it any easier. **I Bill** stood up and passed the back of **my his** hand over **my his** forehead. **I he** held out the screw driver to **him Cliff**, " Want to try? "

He did, and didn't get any further than **I Bill** did. **He** said, " That's funny. "

I Bill said, " What's funny? "

He said, " I had a screw turning just now. It moved about an eighth of an inch and then the screw driver slipped. "

" What's funny about that? "

Cliff backed away and put down the screw driver with two fingers. " What's funny is that I saw the screw move back an eighth of an inch and tighten up again. "

Mary Ann was fidgeting again. **She** said, " Why don't your scientific minds think of a blowtorch, if you're so anxious. " There was a blowtorch on one of the benches and **she** was pointing to it.

Well, ordinarily, **I Bill** would not think any more of using a blowtorch on **Junior** than on **myself himself**. But **I he** was thinking something and **Cliff** was thinking something and **we they** were both thinking the same thing. **Junior** didn't want to be opened up.

Cliff said, " What do you think, Bill? "

And **I Bill** said, " I don't know, Cliff. "

Mary Ann said, " Well, hurry up, lunkhead, we'll miss the show. "

So **I Bill** picked up the blowtorch and adjusted the gauge on the oxygen cylinder. It was going to be like stabbing a friend.

But **Mary Ann** stopped the proceedings by saying, " Well, how stupid can men be? These screws are loose. You must have been turning the screw driver the wrong way. "

Now there isn't much chance of turning a screw driver the wrong way. Just the same, I **Bill** **do** **does** not like to contradict **Mary Ann**, so I **he** just said, " Mary Ann, don't stay too close to Junior. Why don't you wait by the door. "

But **she** just said, " Well, look! " And there was a screw in **her** hand and an empty hole in the front of **Junior's** case. **She** had removed it by hand.

Cliff said, " Holy Smoke! "

They were turning, all dozen screws. They were doing it by themselves, like little worms crawling out of their holes, turning round and round, then dropping out. I **Bill** scrambled them up and only one was left. It hung on for a while, the front panel sagging from it, till I **Bill** reached out. Then the last screw dropped and the panel fell gently into **my his** arms. I **he** put it to one side.

Cliff said, " It did that on purpose. It heard us mention the blowtorch and gave up. " **His** face is usually pink, but it was white then.

I **Bill** was feeling a little queer **myself himself**. I **he** said, " What's it trying to hide? "

" I don't know. "

We they bent before its open insides and for a while **we they** just looked. I **Bill** could hear **Mary Ann's** toe begin to tap the floor again. I **he** looked at **my his** wristwatch and I **he** had to admit to **myself himself we they** didn't have much time. In fact, **we they** didn't have any time left.

And then I **he** said, " It's got a diaphragm. "

Cliff said, " Where? " and bent closer.

I **Bill** pointed. " And a loud speaker. "

" You didn't put them in? "

" Of course I didn't put them in. I ought to know what I put in. If I put it in, I'd remember. "

" Then how did it get in? "

We they were squatting and arguing. I **Bill** said, " It made them itself, I suppose. Maybe it

grows them. Look at that. "

I **he** pointed again. Inside the box at two different places, were coils of something that looked like thin garden hose, except that they were of metal. They spiraled tightly so that they lay flat. At the end of each coil, the metal divided into five or six thin filaments that were in little sub spirals.

" You didn't put those in either? "

" No, I didn't put those in either. "

" What are they? "

He knew what they were and I **Bill** knew what they were. Something had to reach out to get materials for **Junior** to make parts for **himself**; something had to snake out for the telephone. I **Bill** picked up the front panel and looked at it again. There were two circular bits of metal cut out and hinged so that they could swing forward and leave a hole for something to come through.

I **he** poked a finger through one and held it up for **Cliff** to see, and said, " I didn't put this in either. "

Mary Ann was looking over my **Bill's** shoulder now, and without warning **she** reached out. I **Bill** was wiping my **his** fingers with a paper towel to get off the dust and grease and didn't have time to stop **her**. I **he** should have known **Mary Ann**, though; **she**'s always so anxious to help.

Anyway, **she** reached in to touch one of the - well, we might as well say it - tentacles. I do not know if **she** actually touched them or not. Later on **she** claimed **she** hadn't. But anyway, what happened then was that **she** let out a little yell and suddenly sat down and began rubbing **her** arm.

" The same one, " **she** whimpered. " First you, and then that. "

I **Bill** helped **her** up. " It must have been a loose connection, Mary Ann. I'm sorry, but I told you - "

Cliff said, " Nuts! That was no loose connection. Junior's just protecting itself. "

I **Bill** had thought the same thing, **myself himself**. I **he** had thought lots of things. **Junior** was a new kind of machine. Even the mathematics that controlled it were different from anything anybody had worked with before. Maybe it had something no machine previously had ever

had. Maybe it felt a desire to stay alive and grow. Maybe it would have a desire to make more machines until there were millions of them all over the earth, fighting with human beings for control.

I **He** opened **my his** mouth and **Cliff** must have known what I **he** was going to say, because **he** yelled, " No. No, don't say it! "

But I **Bill** could not stop **myself himself**. It just came out and I **he** said, " Well, look, let's disconnect Junior - What's the matter? "

Cliff said bitterly, " Because he's listening to what we say, you jackass. He heard about the blowtorch, didn't he? I was going to sneak up behind it, but now it will probably electrocute me if I try. "

Mary Ann was still brushing at the back of **her** dress and saying how dirty the floor was, even though I **Bill** kept telling **her** I **he** had nothing to do with that. I mean, it's **the janitor** that makes the mud.

Anyway, **she** said, " Why don't you put on rubber gloves and yank the cord out? "

I **Bill** could see **Cliff** was trying to think of reasons why that wouldn't work. **He** didn't think of any, so **he** put on the rubber gloves and walked towards Junior.

I **Bill** yelled, " Watch out! "

It was a stupid thing to say. **He** had to watch out; **he** had no choice. One of the tentacles moved and there was no doubt what they were now. It whirled out and drew a line between **Cliff** and the power cable. It remained there, vibrating a little with its six finger tendrils splayed out. Tubes inside **Junior** were beginning to glow. **Cliff** didn't try to go past that tentacle. **He** backed away and after a while, it spiraled inward again. **He** took off **his** rubber gloves.

" Bill, " **he** said, " we're not going to get anywhere. That's a smarter gadget than we dreamed we could make. It was smart enough to use my voice as a model when it built its diaphragm. It may become smart enough to learn how to - " **He** looked over **his** shoulder, and whispered, " how to generate its own power and become self contained. "

" Bill, we've got to stop it, or someday someone will telephone the planet Earth and get the answer, 'Honest, boss, there's nobody here anywhere but us complicated thinking machines!' "

" Let's get in the police, " I **Bill** said. " We'll explain. A grenade, or something - "

Cliff shook his head, " We can't have anyone else find out. They'll build other Juniors and it looks like we don't have enough answers for that kind of a project after all. "

" Then what do we do? "

" I don't know. "

I Bill felt a sharp blow on my his chest. I he looked down and it was Mary Ann, getting ready to spit fire. She said, " Look, lunkhead, if we've got a date, we've got one, and if we haven't, we haven't. Make up your mind. "

I he said, " Now, Mary Ann - "

She said, " Answer me. I never heard such a ridiculous thing. Here I get dressed to go to a play, and you take me to a dirty laboratory with a foolish machine and spend the rest of the evening twiddling dials. "

" Mary Ann, I'm not - "

She wasn't listening; she was talking. I he wish wishes I he could remember what she said after that. Or maybe I he do does not; maybe it's just as well I he can not remember, since none of it was very complimentary. Every once in a while I Bill would manage a " But, Mary Ann - " and each time it would get sucked under and swallowed up.

Actually, as I said, she's a very gentle creature and it's only when she gets excited that she's ever talkative or unreasonable. Of course, with red hair, she feels she ought to get excited rather often. That's my theory, anyway. She just feels she has to live up to her red hair.

Anyway, the next thing I Bill do does remember clearly is Mary Ann finishing with a stamp on my his right foot and then turning to leave. I he ran after her, trying once again, " But, Mary Ann - "

Then Cliff yelled at us them. Generally, he doesn't pay any attention to us them, but this time he was shouting, " Why don't you ask her to marry you, you lunkhead? "

Mary Ann stopped. She was in the doorway by then but she didn't turn around. I Bill stopped too, and felt the words get thick and clogged up in my his throat. I he could not even manage a " But, Mary Ann - "

Cliff was yelling in the background. I Bill heard him as though he were a mile away. He was shouting, " I got it! I got it! " over and over again.

Then **Mary Ann** turned and **she** looked so beautiful - Did **I** tell you that **she**'s got green eyes with a touch of blue in them? Anyway **she** looked so beautiful that all the words in **my Bill's** throat jammed together very tightly and came out in that funny sound you make when you swallow.

She said, " Were you going to say something, Bill? "

Well, **Cliff** had put it in **my Bill's** head. **My his** voice was hoarse and **I he** said, " Will you marry me, Mary Ann? "

The minute **I he** said it, **I he** wished **I he** had not, because **I he** thought **she** would never speak to **me him** again. Then two minutes after that **I he** was glad **I he** had, because **she** threw **her** arms around **me him** and reached up to kiss **me him**. It was a while before **I he** was quite clear what was happening, and then **I he** began to kiss back. This went on for quite a long time, until **Cliff's** banging on **my his** shoulder managed to attract **my his** attention.

I Bill turned and said, snappishly, " What the devil do you want? " It was a little ungrateful. After all, **he** had started this.

He said, " Look! "

In **his** hand, **he** held the main lead that had connected **Junior** to the power supply.

I Bill had forgotten about **Junior**, but now it came back. **I He** said, " He's disconnected, then. "

" Cold! "

" How did you do it? "

He said, " Junior was so busy watching you and Mary Ann fight that I managed to sneak up on it. **Mary Ann** put on one good show. "

I Bill did not like that remark because **Mary Ann** is a very dignified and self contained sort of girl and doesn't put on " shows. " However, **I he** had too much in hand to take issue with **him Cliff**.

I he said to **Mary Ann**, " I don't have much to offer, Mary Ann; just a schoolteacher's salary. Now that we've dismantled Junior, there isn't even any chance of - "

Mary Ann said, " I don't care, Bill. I just gave up on you, you lunkheaded darling. I've tried

practically everything - "

" You've been kicking my shins and stamping on my toes. "

" I'd run out of everything else. I was desperate. "

The logic wasn't quite clear, but I **he** did not answer because I **he** remembered about the show. I **he** looked at my **his** watch and said, " Look, Mary Ann, if we hurry we can still make the second act. "

She said, " Who wants to see the show? " -

So I **Bill** kissed **her** some more; and **we** **they** never did get to see the show at all.

There's only one thing that bothers **me** **him** now. **Mary Ann** and I **he** are married, and **we** **they**'re perfectly happy. I **he** just had a promotion; I **he** **am** **is** an associate professor now. **Cliff** keeps working away at plans for building a controllable Junior and **he**'s making progress.

None of that's it.

You see, I **Bill** talked to **Cliff** the next evening, to tell **him** **Mary Ann** and I **he** were going to marry and to thank **him** for giving **me** **him** the idea. And after staring at **me** **him** for a minute, **he** **Cliff** swore **he** hadn't said it; **he** hadn't shouted for **me** **Bill** to propose marriage.

Of course, there was something else in the room with **Cliff's** voice.

I **Bill** **keep** **keeps** worrying **Mary Ann** will find out. **She**'s the gentlest girl I know, but **she** has got red hair. **She** can't help trying to live up to that, or have I said that already?

Anyway, what will **she** say if **she** ever finds out that I **Bill** did not have the sense to propose till a machine told **me** **him** to?