THE MONKEY WRENCH

BY GORDON R. DICKSON

A perfectly logical machine,
that insisted on being logical at all times, would, still,
be a perfect sucker for certain questions . . .

Cary Harmon was not an ungifted young man. He had the intelligence to carve himself a position as a Lowland society lawyer, which on Venus is not easy to do. And he had the discernment to consolidate that position by marrying into the family of one of the leading drug-exporters. But, nevertheless, from the scientific viewpoint, he was a layman; and laymen, in their ignorance, should never be allowed to play with delicate technical equipment; for the result will be trouble, as surely as it is the first time a baby gets its hands on a match.

His wife was a high-spirited woman; and would have been hard to handle at times if it had not been for the fact that she was foolish enough to love him. Since he did not love her at all, it was consequently both simple and practical to terminate all quarrels by dropping out of sight for several days until her obvious fear of losing him for good brought her to a proper humility. He took good care, each time he disappeared, to pick some new and secure hiding place where past experience or her several years' knowledge of his habits would be no help in locating him. Actually, he enjoyed thinking up new and undiscoverable bolt-holes, and made a hobby out of discovering them.

Consequently, he was in high spirits the gray winter afternoon he descended unannounced on the weather station of Burke McIntyre, high in the Lonesome Mountains, a jagged, kindless chain on the deserted shorelands of Venus' Northern Sea. He had beaten a blizzard to the dome with minutes to spare; and now, with his small two-place flier safely stowed away, and a meal of his host's best supplies under his belt, he sat reveling in the comfort of his position and listening to the hundred and fifty mile-per-hour, subzero winds lashing impotently at the arching roof overhead.

"Ten minutes more," he said to Burke, "and I'd have had a tough time making it."

"Tough!" snorted Burke. He was a big, heavy-featured blond man with a kindly contempt for all of humanity aside from the favored class of meteorologists. "You Lowlanders are too used to that present day Garden of Eden you have down below. Ten minutes more and you'd

have been spread over one of the peaks around here to wait for the spring searching party to gather your bones."

Cary laughed in cheerful disbelief.

"Try it, if you don't believe me," said Burke. "No skin off my nose if you don't have the sense to listen to reason. Take your bug up right now if you want."

"Not me," Cary's brilliant white teeth flashed in his swarthy face. "I know when I'm comfortable. And that's no way to treat your guest, tossing him out into the storm when he's just arrived."

"Some guest," rumbled Burke. "I shake hands with you after the graduation exercises, don't hear a word from you for six years and then suddenly you're knocking at my door here in the hinterland."

"I came on impulse," said Cary. "It's the prime rule of my life. Always act on impulse, Burke. It puts the sparkle in existence."

"And leads you to an early grave," Burke supplemented.

"If you have the wrong impulses," said Cary. "But then if you get sudden urges to jump off cliffs or play Russian Roulette then you're too stupid to live, anyway."

"Cary," said Burke heavily, "you're a shallow thinker."

"And you're a stodgy one," grinned Cary. "Suppose you quit insulting me and tell me something about yourself. What's this hermit's existence of yours like? What do you do?"

"What do I do?" repeated Burke. "I work."

"But just how?" Cary said, settling himself cozily back into his chair. "Do you send up balloons? Catch snow in a pail to find how much fell? Take sights on the stars? Or what?"

Burke shook his head at him and smiled tolerantly.

"Now what do you want to know for?" he asked. "It'll just go in one ear and out the other."

"Oh, some of it might stick," said Cary. "Go ahead, anyhow."

"Well, if you insist on my talking to entertain you," he answered, "I don't do anything so picturesque. I just sit at a desk and prepare weather data for transmission to the Weather Center down at Capital City."

"Aha!" Cary said, waggling a lazy forefinger at him in reproof. "I've got you now. You've been laying down on the job. You're the only one here; so if you don't take observations, who does?"

"You idiot!" said Burke. "The machine does, of course. These stations have a Brain to do that."

"That's worse," Cary answered. "You've been sitting here warm and comfortable while some poor little Brain scurries around outside in the snow and does all your work for you."

"Oh, shut up!" Burke said. "As a matter of fact you're closer to the truth than you think; and it wouldn't do you any harm to learn

a few things about the mechanical miracles that let you lead a happy ignorant life. Some wonderful things have been done lately in the way of equipping these stations."

Cary smiled mockingly.

"I mean it," Burke went on, his face lighting up. "The Brain we've got here now is the last word in that type of installation. As a matter of fact, it was just put in recently—up until a few months back we had to work with a job that was just a collector and computer. That is, it collected the weather data around this station and presented it to you. Then you had to take it and prepare it for the calculator, which would chew on it for a while and then pass you back results which you again had to prepare for transmission downstairs to the Center."

"Fatiguing, I'm sure," murmured Cary, reaching for the drink placed handily on the end table beside his chair. Burke ignored him, caught up in his own appreciation of the mechanical development about which he was talking.

"It kept you busy, for the data came in steadily; and you were always behind since a batch would be accumulating while you were working up the previous batch. A station like this is the center-point for observational mechs posted at points over more than five hundred square miles of territory; and, being human, all you had time to do was skim the cream off the reports and submit a sketchy picture to the calculator. And then there was a certain responsibility involved in taking care of the station and yourself.

"But now"—Burke leaned forward determinedly and stabbed a thick index finger at his visitor—"we've got a new installation that takes the data directly from the observational mechs—all of it—resolves it into the proper form for the calculator to handle it, and carries it right on through to the end results. All I still have to do is prepare the complete picture from the results and shoot it downstairs.

"In addition, it runs the heating and lighting plants, automatically checks on the maintenance of the station. It makes repairs and corrections on verbal command and has a whole separate section for the consideration of theoretical problems."

"Sort of a little tin god," said Cary, nastily. He was used to attention and subconsciously annoyed by the fact that Burke seemed to be waxing more rhapsodic over his machine than the brilliant and entertaining guest who, as far as the meteorologist could know, had dropped in under the kind impulse to relieve a hermit's boring existence.

Unperturbed, Burke looked at him and chuckled.

"No," he replied. "A *big* tin god, Cary."

The lawyer stiffened slightly in his chair. Like most people who are fond of poking malicious fun at

others, he gave evidence of a very thin skin when the tables were turned.

"Sees all, knows all, tells all, I suppose," he said sarcastically. "Never makes a mistake. Infallible."

"You might say that," answered Burke, still with a grin on his face. He was enjoying the unusual pleasure of having the other on the defensive. But Cary, adept at verbal battles, twisted like an eel.

"Too bad, Burke," he said. "But those qualities alone don't quite suffice for elevating your gadget to godhood. One all-important attribute is lacking – invulnerability. Gods never break down."

"Neither does this."

"Come now, Burke," chided Cary, "you mustn't let your enthusiasm lead you into falsehood. No machine is perfect. A crossed couple of wires, a burnt out tube and where is your darling? Plunk! Out of action."

Burke shook his head.

"There aren't any wires," he said. "It uses beamed connections. And as for burnt out tubes, they don't even halt consideration of a problem. The problem is just shifted over to a bank that isn't in use at the time; and automatic repairs are made by the machine itself. You see, Cary, in this model, no bank does one specific job, alone. Any one of them—and there's twenty, half again as many as this station would ever need—can do any job from running the heating plant to operating the calculator. If something comes up that's too big for one bank to handle, it just hooks in one or more of the idle banks—and so on until it's capable of dealing with the situation."

"Ah," said Cary, "but what if something *did* come up that required all the banks and more too? Wouldn't it overload them and burn itself out?"

"You're determined to find fault with it, aren't you, Cary," answered Burke. "The answer is no. It wouldn't. Theoretically it's possible for the machine to bump into a problem that would require all or more than all of its banks to handle. For example, if this station suddenly popped into the air and started to fly away for no discernible reason, the bank that first felt the situation would keep reaching out for help until all the banks were engaged in considering it, until it crowded out all the other functions the machine performs. But, even then, it wouldn't overload and burn out. The banks would just go on considering the problem until they had evolved a theory that explained why we were flying through the air and what to do about returning us to our proper place and functions."

Cary straightened up and snapped his fingers.

"Then it's simple," he said. "I'll just go in and tell your machine—on the verbal hookup—that we're flying through the air."

Burke gave a sudden roar of laughter.

"Cary, you dope!" he said.

"Don't you think the men who designed the machine took the possibility of verbal error into account? You say that the station is flying through the air. The machine immediately checks by making its own observations; and politely replies, 'Sorry, your statement is incorrect' and forgets the whole thing."

Cary's eyes narrowed and two spots of faint color flushed the tight skin over his cheekbones; but he held his smile.

"There's the theoretical section," he murmured.

"There is," said Burke, greatly enjoying himself, "and you could use it by going in and saying 'consider the false statement or data—this station is flying through the air' and the machine would go right to work on it."

He paused, and Cary looked at him expectantly.

"But—" continued the meteorologist, triumphantly, "it would consider the statement with only those banks not then in use; and it would give up the banks whenever a section using real data required them."

He finished, looking at Cary with quizzical good humor. But Cary said nothing; only looked back at him as a weasel might look back at a dog that has cornered it against the wall of a chicken run.

"Give up, Cary," he said at last. "It's no use. Neither God nor Man nor Cary Harmon can interrupt my Brain in the rightful performance of its duty."

And Cary's eyes glittered, dark and withdrawn beneath their narrowed lids. For a long second, he just sat and looked, and then he spoke.

"I could do it," he said, softly.

"Do what?" asked Burke.

"I could gimmick your machine," said Cary.

"Oh, forget it!" boomed Burke. "Don't take things so seriously, Cary. What if you can't think of a monkey wrench to throw into the machinery? Nobody else could, either."

"I said I could do it," repeated Cary.

"Once and for all," answered Burke, "it's impossible. Now stop trying to pick flaws in something guaranteed flawless and let's talk about something else."

"I will bet you," said Cary, speaking with a slow, steady intensity, "five thousand credits that if you will leave me alone with your machine for one minute I can put it completely out of order."

"Forget it, will you?" exploded Burke. "I don't want to take your money, even if five thousand *is* the equivalent of a year's salary for me. The trouble with you is, Cary, you never could stand to lose at anything. Now, forget it!"

"Put up or shut up," said Cary.

Burke took a deep breath.

"Now look," he said, the beginnings of anger rumbling in his deep voice. "Maybe I did wrong to needle you about the machine. But you've got to get over the idea that I can

be bullied into admitting that you're right. You've got no conception of the technology that's behind the machine, and no idea of how certain I am that you, at least, can't do anything to interfere with its operation. You think that there's a slight element of doubt in my mind and that you can bluff me out by proposing an astronomical bet. Then, if I won't bet, you'll tell yourself you've won. Now listen, I'm not just ninety-nine point nine, nine, nine, nine, per cent sure of myself. I'm one hundred per cent sure of myself and the reason I won't bet you is because that would be robbery; and besides, once you'd lost, you'd hate me for winning the rest of your life."

"The bet still stands," said Cary.

"All right!" roared Burke, jumping to his feet. "If you want to force the issue, suit yourself. It's a bet."

Cary grinned and got up, following him out of the pleasant, spacious sitting room, where warm lamps dispelled the gray gloom of the snow-laden sky beyond the windows, and into a short, metal-walled corridor where the ceiling tubes blazed in efficient nakedness. They followed this for a short distance to a room where the wall facing the corridor and the door set in it were all of glass.

Here Burke halted.

"There's the machine," he said, pointing through the transparency of the wall and turning to Cary behind him. "If you want to communicate with it verbally, you speak into that grille there. The calculator is to your right; and that inner door leads down to the room housing the lighting and heating plants. But if you're thinking of physical sabotage, you might as well give up. The lighting and heating systems don't even have emergency manual controls. They're run by a little atomic pile that only the machine can be trusted to handle—that is, except for an automatic setup that damps the pile in case lightning strikes the machine or some such thing. And you couldn't get through the shielding in a week. As for breaking through to the machine up here, that panel in which the grille is set is made of two-inch thick steel sheets with their edges flowed together under pressure."

"I assure you," said Cary. "I don't intend to damage a thing."

Burke looked at him sharply, but there was no hint of sarcasm in the smile that twisted the other's thin lips.

"All right," he said, stepping back from the door. "Go ahead. Can I wait here, or do you have to have me out of sight?"

"Oh, by all means, watch," said Cary. "We machine-gimmickers have nothing to hide." He turned mockingly to Burke, and lifted his arms. "See? Nothing up my right sleeve. Nothing up my left."

"Go on," interrupted Burke roughly. "Get it over with. I want to get back to my drink."

"At once," said Cary, and went

in through the door, closing it behind him.

Through the transparent wall, Burke watched him approach the panel in line with the speaker grille and stop some two feet in front of it. Having arrived at this spot, he became utterly motionless, his back to Burke, his shoulders hanging relaxed and his hands motionless at his side. For the good part of a minute, Burke strained his eyes to discover what action was going on under the guise of Cary's apparent immobility. Then an understanding struck him and he laughed.

"Why," he said to himself, "he's bluffing right up to the last minute, hoping I'll get worried and rush in there and stop him."

Relaxed, he lit a cigarette and looked at his watch. Some forty-five seconds to go. In less than a minute, Cary would be coming out, forced at last to admit defeat—that is, unless he had evolved some fantastic argument to prove that defeat was really victory. Burke frowned. It was almost pathological, the way Cary had always refused to admit the superiority of anyone or anything else; and unless some way was found to soothe him he would be a very unpleasant companion for the remaining days that the storm held him marooned with Burke. It would be literally murder to force him to take off in the tornado velocity winds and a temperature that must be in the minus sixties by this time. At the same time, it went against the meteorologist's grain to crawl for the sake of congeniality—

The vibration of the generator, half-felt through the floor and the soles of his shoes, and customarily familiar as the motion of his own lungs, ceased abruptly. The fluttering streamers fixed to the ventilator grille above his head ceased their colorful dance and dropped limply down as the rush of air that had carried them, ceased. The lights dimmed and went out, leaving only the gray and ghostly light from the thick windows at each end of the corridor to illuminate the passage and the room. The cigarette dropped unheeded from Burke's fingers and in two swift strides he was at the door and through it.

"What have you done?" he snapped at Cary.

The other looked mockingly at him, walked across to the nearer wall of the room and leaned his shoulder blades negligently against it.

"That's for you to find out," he said, his satisfaction clearly evident.

"Don't be insane—" began the meteorologist. Then, checking himself like a man who has no time to lose, he whirled on the panel and gave his attention to the instruments on its surface.

The pile was damped. The ventilating system was shut off and the electrical system was dead. Only the power in the storage cells of the machine itself was available for the operating light still glowed redly on the panel. The great outside doors, wide

enough to permit the ingress and exit of a two-man flier, were closed, and would remain that way, for they required power to open or close them. Visio, radio, and teletype were alike, silent and lifeless through lack of power.

But the machine still operated.

Burke stepped to the grille and pressed the red alarm button below it, twice.

"Attention," he said. "The pile is damped and all fixtures besides yourself lack power. Why is this?"

There was no response, though the red light continued to glow industriously on the panel.

"Obstinate little rascal, isn't it?" said Cary from the wall.

Burke ignored him, punching the button again, sharply.

"Reply!" he ordered. "Reply at once! What is the difficulty? Why is the pile not operating?"

There was no answer.

He turned to the calculator and played his fingers expertly over the buttons. Fed from the stored power within the machine, the punched tape rose in a fragile white arc and disappeared through a slot in the panel. He finished his punching and waited.

There was no answer.

For a long moment he stood there, staring at the calculator as if unable to believe that, even in this last hope, the machine had failed him. Then he turned slowly and faced Cary.

"What have you done?" he repeated dully.

"Do you admit you were wrong?" Cary demanded.

"Yes," said Burke.

"And do I win the bet?" persisted Cary gleefully.

"Yes."

"Then I'll tell you," the lawyer said. He put a cigarette between his lips and puffed it alight; then blew out a long streamer of smoke which billowed out and hung cloudily in the still air of the room, which, lacking heat from the blowers, was cooling rapidly. "This fine little gadget of yours may be all very well at meteorology, but it's not very good at logic. Shocking situation, when you consider the close relation between mathematics and logic."

"What did you do?" reiterated Burke hoarsely.

"I'll get to it," said Cary. "As I say, it's a shocking situation. Here is this infallible machine of yours, worth, I suppose, several million credits, beating its brains out over a paradox."

"A paradox!" the words from Burke were almost a sob.

"A paradox," sang Cary, "a most ingenious paradox." He switched back to his speaking voice. "Which, in case you don't know, is from Gilbert and Sullivan's 'Pirates of Penzance.' It occurred to me while you were bragging earlier that while your little friend here couldn't be damaged, it might be immobilized by giving it a problem too big for its mechanical brain cells to handle. And I remembered a little thing from one of my pre-law logic courses—an interesting little affair called Epimenides Paradox. I don't remember just how it was originally phrased—those logic courses were dull, sleepy sort of businesses, anyway—but for example, if I say to you 'all lawyers are liars' how can you tell whether the statement is true or false, since I am a lawyer and, if it is true, must be lying when I say that all lawyers are liars? But, on the other hand, if I am lying, then all lawyers are not liars, and the statement is false, i.e., a lying statement. If the statement is false, it is true, and if true, false, and so on, so where are you?"

Cary broke off suddenly into a peal of laughter.

"You should see your own face, Burke," he shouted. "I never saw anything so bewildered in my life—anyway, I just changed this around and fed it to the machine. While you waited politely outside, I went up to the machine and said to it 'You must reject the statement I am now making to you, because all the statements I make are incorrect.' "

He paused and looked at the meteorologist.

"Do you see, Burke? It took that statement of mine in and considered it for rejecting. But it could not reject it without admitting that it was correct, and how could it be correct when it stated that all statements I made were incorrect. You see . . . yes, you do see, I can see it in your face. Oh, if you could only look at yourself now. The pride of the meteorology service, undone by a paradox."

And Cary went off into another fit of laughter that lasted for a long minute. Every time he would start to recover, a look at Burke's wooden face, set in lines of utter dismay, would set him off again. The meteorologist neither moved, nor spoke, but stared at his guest as if he were a ghost.

Finally, weak from merriment, Cary started to sober up. Chuckling feebly, he leaned against the wall, took a deep breath and straightened up. A shiver ran through him, and he turned up the collar of his tunic.

"Well," he said. "Now that you know what the trick was, Burke, suppose you get your pet back to its proper duties again. It's getting too cold for comfort and that daylight coming through the windows isn't the most cheerful thing in the world, either."

But Burke made no move toward the panel. His eyes were fixed and they bored into Cary as unmovingly as before. Cary snickered a little at him.

"Come on, Burke," he said. "Man the pumps. You can recover from your shock sometime afterwards. If it's the bet that bothers you, forget it. I'm too well off myself to need to snatch your pennies. And if it's the failure of Baby, here, don't feel too bad. It did better than I expected. I thought it would just blow a fuse and quit work altogether, but I see it's still busy and devoting every

single bank to obtaining a solution. I should imagine"—Cary yawned—"that it's working toward evolving a theory of types. *That* would give it the solution. Probably could get it, too, in a year or so."

Still Burke did not move. Cary looked at him oddly.

"What's wrong?" he asked irritatedly.

Burke's mouth worked, a tiny speck of spittle flew from one corner of it.

"You—" he said. The word came tearing from his throat like the hoarse grunt of a dying man.

"What—"

"You fool!" ground out Burke, finding his voice. "You stupid idiot! You insane moron!"

"Me? Me?" cried Cary. His voice was high in protest, almost like a womanish scream. "I was right!"

"Yes, you were right," said Burke. "You were too right. How am I supposed to get the machine's mind off this problem and on to running the pile for heat and light, when all its circuits are taken up in considering your paradox? What can *I* do, when the Brain is deaf, and dumb, and blind?"

The two men looked at each other across the silent room. The warm breath of their exhalations made frosty plumes in the still air; and the distant howling of the storm, deadened by the thick walls of the station, seemed to grow louder in the silence, bearing a note of savage triumph.

The temperature inside the station was dropping very fast—

THE END

THE ANALYTICAL LABORATORY

There's a rather interesting reaction apparent on the report sheet this time; "Success Story" came in second—but "Success Story" had more first-place votes than did "Izzard"! The answer, of course, is that opinions on "Success Story," which was actually a love-story in essence, were rather sharply divided. Science-fiction has shown a slight tendency to overlook such little points—that human emotional reactions are not logical, but very powerful factors in developing history.

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Place	Story	Author	Points
1.	Izzard And The Membrane	Walter M. Miller, Jr.	2.00
2.	Success Story	Julian Chain	2.14
3.	Galactic Gadgeteers	Harry Stine	2.93
4.	Key Decision	H. B. Fyfe	3.78
5.	Guess Again	J. A. Meyer	3.85

The Editor.

BOOK REVIEWS

"Solution T-25," by Theodora Du Bois. Doubleday & Company, Inc., New York. 1951. 218 pp. $2.75.

Ability to write nearly twenty mysteries, some of them very good, for Doubleday's Crime Club turns out to be no guarantee that the author can write an original—or even unoriginal—book for the same publisher's science-fiction series. Theodora Du Bois, in her "Solution T-25," has turned out a very ordinary piece of fiction for either category. One suspects that it may have been intended as a "timely" mystery which didn't quite meet Crime Club standards.

At any rate, this is no more and no less than a story of a group of bright young things who nobly pretend to be collaborators after Asiatic Communists have overwhelmed the United States, in order to give a couple of super-scientists the time to come up with a super-weapon. Although there is much gnashing of villainous teeth, especially by a five-by-five female Commissar, and a fair amount of pseudo-ruthlessness and bloodshed on both sides, there is no particular suspense, no character, and no science worth the name. Thanks to Miss Du Bois' following, the book will probably sell better than any of Doubleday's other recent science-fiction titles by writers who know what they are trying to do and how to do it.

P. Schuyler Miller

"Kinsmen of the Dragon," by Stanley Mullen. Shasta Publishers, Chicago; 1951; 336 pp.; $3.50.

"This novel has not appeared in any form prior to this book publication" proclaims the jacket blurb. Few other s.f. books can make that statement this season, as the rash of pulp reprints continues. But Stan Mullen, himself a magazine contributor, has come up with a first-class first novel, blending astounding science with unknown wizardry. If "Kinsmen" somewhat invites comparison with the recently reprinted "Blind Spot" because of its world-beside-our-own theme, I dare the sacrilegious opinion that it *surpasses* the "Spot" in reader interest. In Annwyn, the invisible realm