

## Introduction: Can Humans Think?

The official doctrine, which hails chiefly from Descartes, is something like this. With the doubtful exceptions of idiots and infants in arms every human being has both a body and a mind.... Human bodies are in space and are subject to the mechanical laws which govern all other bodies in space.... But minds are not in space, nor are their operations subject to mechanical laws. The workings of one mind are not witnessable by other observers; its career is private. Only I can take direct cognisance of the states and processes of my own mind. (1–2)

I shall often speak of it [this “official doctrine”], with deliberate abusiveness, as ‘the dogma of the Ghost in the Machine’. I hope to prove that it is entirely false, and false not in detail but in principle. It is not merely an assemblage of particular mistakes. It is one big mistake and a mistake of a special kind. It is, namely, a category-mistake. It represents the facts of mental life as if they belonged to one logical type or category (or range of types or categories), when they actually belong to another. The dogma is therefore a philosopher’s myth. (5–6)

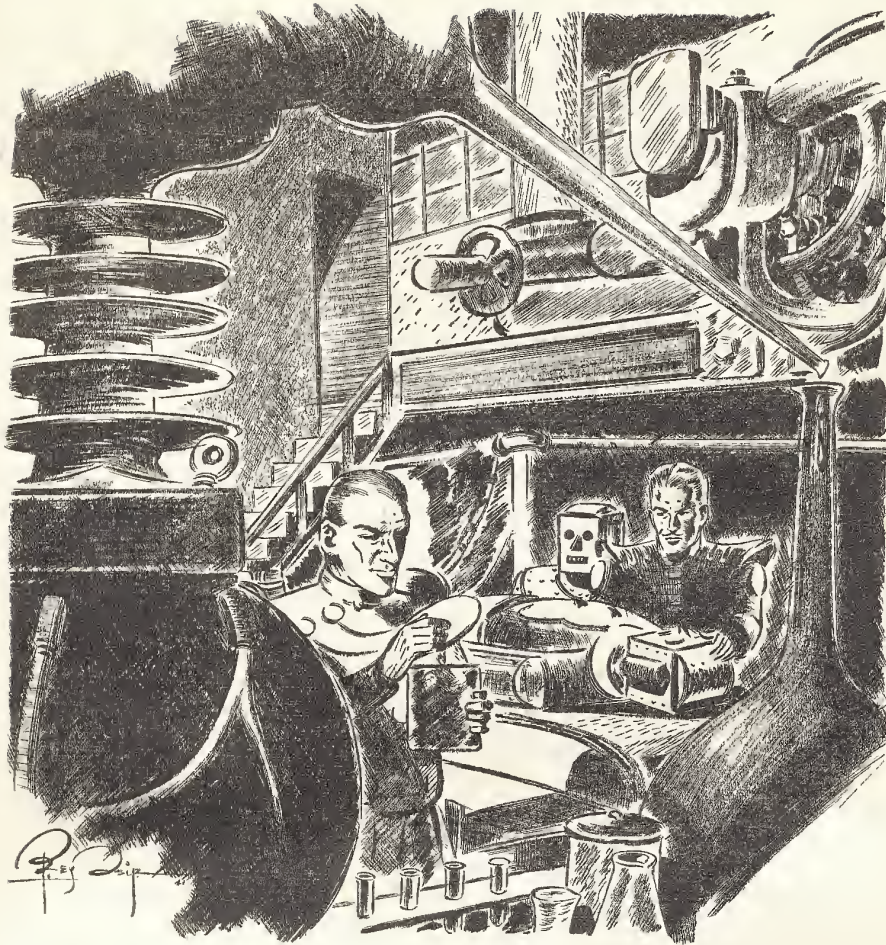
[Under the official doctrine,] One person could in principle never recognise the difference between the rational and the irrational utterances issuing from other human bodies, since he could never get access to the postulated immaterial causes of some of their utterances. Save for the doubtful exception of himself, he could never tell the difference between a man and a Robot. (10)

Gilbert Ryle, *The Concept of Mind*, 60th anniversary ed. (1949; London: Routledge, 2009), [doi:10.4324/9780203875858](https://doi.org/10.4324/9780203875858).

### WHAT’S THAT WORD?

Use the *Oxford English Dictionary* [oed.com](https://www.oed.com) to develop an explanation of why an Oxford philosopher might have used the word “Robot” like this in 1949. Pay close attention to the etymology and the list of examples (with dates).

Separate handout: *Astounding Science-Fiction* 27, no. 2 (April 1941), [Internet Archive](https://www.archive.org/details/astounding-science-fiction-27-no-2-april-1941).



## REASON

By Isaac Asimov

**The robot was strictly logical, reasoning, as only its perfect machine mind could, from observed facts to inevitable—if wacky—conclusion.**

Illustrated by Rey Isip

GREGORY POWELL spaced his words for emphasis, "One week ago, Donovan and I put you together." His brows furrowed doubtfully and he pulled the end of his brown mustache. It was quiet in the officer's room of Solar Station #5—except for the

soft purring of the mighty Beam Director somewhere far below.

Robot QT 1 sat immovable. The burnished plates of his body gleamed in the Luxites and the glowing red of the photoelectric cells that were his eyes, were fixed steadily upon the Earthman at the other side of the table.

Powell repressed a sudden attack of nerves. These robots possessed peculiar brains. The positronic paths impressed upon them were calculated in advance, and all possible permutations that might lead to anger or hate were rigidly excluded. And yet—the QT models were the first of their kind, and this was the first of the QT's. Anything could happen.

Finally, the robot spoke. His voice carried the cold timbre inseparable from a metallic diaphragm, "Do you realize the seriousness of such a statement, Powell?"

"Something made you, Cutie," pointed out Powell. "You admit yourself that your memory seems to spring full-grown from an absolute blankness of a week ago. I'm giving you the explanation. Donovan and I put you together from the parts shipped us."

Cutie gazed upon his long, supple fingers in an oddly human attitude of mystification, "It strikes me that there should be a more satisfactory explanation than that. For you to make me seems improbable."

The Earthman laughed quite suddenly, "In Earth's name, why?"

"Call it intuition. That's all it is so far. But I intend to reason it out, though. A chain of valid reasoning can end only with the determination of truth, and I'll stick till I get there."

Powell stood up and seated himself at the table's edge next the robot. He felt a sudden strong sym-

pathy for this strange machine. It was not at all like the ordinary robot, attending to his specialized task at the station with the intensity of a deeply ingrooved positronic path.

He placed a hand upon Cutie's steel shoulder and the metal was cold and hard to the touch.

"Cutie," he said, "I'm going to try to explain something to you. You're the first robot who's ever exhibited curiosity as to his own existence—and I think the first that's really intelligent enough to understand the world outside. Here, come with me."

THE ROBOT rose erect smoothly and his thickly sponge-rubber soled feet made no noise as he followed Powell. The Earthman touched a button and a square section of the wall flicked aside. The thick, clear glass revealed space—star-speckled.

"I've seen that in the observation ports in the engine room," said Cutie.

"I know," said Powell. "What do you think it is?"

"Exactly what it seems—a black material just beyond this glass that is spotted with little gleaming dots. I know that our director sends out beams to some of these dots, always to the same ones—and also that these dots shift and that the beams shift with them. That is all."

"Good! Now I want you to listen carefully. The blackness is emptiness—vast emptiness stretching out infinitely. The little, gleaming dots are huge masses of energy-filled matter. They are globes, some of them millions of miles in diameter—and for comparison, this station is only one mile across. They seem so tiny because they are incredibly far off."

"The dots to which our energy beams are directed, are nearer and much smaller. They are cold and

hard and human beings like myself live upon their surfaces—many billions of them. It is from one of these worlds that Donovan and I come. Our beams feed these worlds energy drawn from one of those huge incandescent globes that happens to be near us. We call that globe the Sun and it is on the other side of the station where you can't see it."

Cutie remained motionless before the port, like a steel statue. His head did not turn as he spoke, "Which particular dot of light do you claim to come from?"

Powell searched, "There it is. The very bright one in the corner. We call it Earth." He grinned, "Good old Earth. There are five billions of us there, Cutie—and in about two weeks I'll be back there with them."

And then, surprisingly enough, Cutie hummed abstractedly. There was no tune to it, but it possessed a curious twanging quality as of plucked strings. It ceased as suddenly as it had begun, "But where do I come in, Powell? You haven't explained *my* existence."

"The rest is simple. When these stations were first established to feed solar energy to the planets, they were run by humans. However, the heat, the hard solar radiations, and the electron storms made the post a difficult one. Robots were developed to replace human labor and now only two human executives are required for each station. We are trying to replace even those, and that's where you come in. You're the highest type robot ever developed and if you show the ability to run this station independently, no human need ever come here again except to bring parts for repairs."

His hand went up and the metal visi-lid snapped back into place. Powell returned to the table and

polished an apple upon his sleeve before biting into it.

The red glow of the robot's eyes held him, "Do you expect me," said Cutie slowly, "to believe any such complicated, implausible hypothesis as you have just outlined? What do you take me for?"

Powell sputtered apple fragments onto the table and turned red, "Why, damn you, it wasn't a hypothesis. Those were facts."

Cutie sounded grim, "Globes of energy millions of miles across! Worlds with five billion humans on them! Infinite emptiness! Sorry, Powell, but I don't believe it. I'll puzzle this thing out for myself. Good-by."

He turned and stalked out of the room. He brushed past Michael Donovan on the threshold with a grave nod and passed down the corridor, oblivious to the astounded stare that followed him.

Mike Donovan rumbled his red hair and shot an annoyed glance at Powell, "What was that walking junk yard talking about? What doesn't he believe?"

The other dragged at his mustache bitterly. "He's a skeptic," was the bitter response. "He doesn't believe we made him or that Earth exists or space or stars."

"Sizzling Saturn, we've got a lunatic robot on our hands."

"He says he's going to figure it all out for himself."

"Well, now," said Donovan sweetly, "I do hope he'll condescend to explain it all to me after he's puzzled everything out." Then, with sudden rage, "Listen! If that metal mess gives me any lip like that, I'll knock that chromium cranium right off its torso."

He seated himself with a jerk and drew a paper-backed mystery novel out of his inner jacket pocket, "That

robot gives me the willies anyway—too damned inquisitive!"

MIKE DONOVAN growled from behind a huge lettuce-and-tomato sandwich as Cutie knocked gently and entered.

"Is Powell here?"

Donovan's voice was muffled, with pauses for mastication, "He's gathering data on electronic stream functions. We're heading for a storm, looks like."

Gregory Powell entered as he spoke, eyes on the graphed paper in his hands and dropped into a chair. He spread the sheets put before him and began scribbling calculations. Donovan stared over his shoulder, crunching lettuce and dribbling bread crumbs. Cutie waited silently.

Powell looked up, "The Zeta Potential is rising, but slowly. Just the same, the Stream Functions are erratic and I don't know what to expect. Oh, hello, Cutie. I thought you were supervising the installation of the new drive bar."

"It's done," said the robot, quietly, "and so I've come to have a talk with the two of you."

"Oh!" Powell looked uncomfortable. "Well, sit down. No, not that chair. One of the legs is weak and you're no lightweight."

The robot did so and said placidly, "I have come to a decision."

Donovan glowered and put the remnants of his sandwich aside. "If it's on any of that screwy—"

The other motioned impatiently for silence, "Go ahead, Cutie. We're listening."

"I have spent these last two days in concentrated introspection," said Cutie, "and the results have been most interesting. I began at the one sure assumption I felt permitted to make. I, myself, exist, because I think—"

Powell groaned, "Oh, Jupiter, a robot Descartes!"

"Who's Descartes?" demanded Donovan. "Listen, do we have to sit here and listen to this metal maniac—"

"Keep quiet, Mike!"

Cutie continued imperturbably, "And the question that immediately arose was: Just what is the cause of my existence?"

Powell's jaw set lumpily. "You're being foolish. I told you already that we made you."

"And if you don't believe us," added Donovan, "we'll gladly take you apart!"

The robot spread his strong hands in a deprecatory gesture, "I accept nothing on authority. A hypothesis must be backed by reason, or else it is worthless—and it goes against all the dictates of logic to suppose that you made me."

Powell dropped a restraining arm upon Donovan's suddenly bunched fist. "Just why do you say that?"

Cutie laughed. It was a very inhuman laugh—the most machinelike utterance he had yet given vent to. It was sharp and explosive, as regular as a metronome and as uninflected.

"Look at you," he said finally. "I say this in no spirit of contempt, but look at you! The material you are made of is soft and flabby, lacking endurance and strength, depending for energy upon the inefficient oxidation of organic material—like that." He pointed a disapproving finger at what remained of Donovan's sandwich. "Periodically you pass into a coma and the least variation in temperature, air pressure, humidity, or radiation intensity impairs your efficiency. You are *makeshift*."

"I, on the other hand, am a finished product. I absorb electrical energy directly and utilize it with