

Schrödinger's Cat
by Ursula K. Le Guin

As things appear to be coming to some sort of climax, I have withdrawn to this place. It is cooler here, and nothing moves fast.

On the way here I met a married couple who were coming apart. She had pretty well gone to pieces, but he seemed, at first glance, quite hearty. While he was telling me that he had no hormones of any kind, she pulled herself together and, by supporting her head in the crook of her right knee and hopping on the toes of her right foot, approached us shouting, "Well what's wrong with a person trying to express themselves?" The left leg, the arms, and the trunk, which had remained lying in the heap, twitched and jerked in sympathy. "Great legs," the husband pointed out, looking at the slim ankle. "My wife had great legs."

A cat has arrived interrupting my narrative. It is a striped yellow tom with white chest and paws. He has long whiskers and yellow eyes. I never noticed before that cats had whiskers above their eyes; is that normal? There is no way to tell. As he has gone to sleep on my knee, I shall proceed.

Where?

Nowhere, evidently. Yet the impulse to narrate remains. Many things are not worth doing, but almost anything is worth telling. In any case, I have a severe congenital case of *Ethica laboris puritanica*,¹ or Adam's Disease. It is incurable except by total decapitation. I even like to dream when asleep, and to try and recall my dreams: it assures me that I haven't wasted seven or eight hours just lying there. Now here I am, lying, here. Hard at it.

Well, the couple I was telling you about finally broke up. The pieces of him trotted around bouncing and cheeping, like little chicks, but she was finally reduced to nothing but a mass of nerves: rather like fine chicken wire, in fact, but hopelessly tangled.

So I came on, placing one foot carefully in front of the other, and grieving. This grief is with me still. I fear it is part of me, like foot or loin or eye, or may even be myself: for I seem to have no other self, nothing further, nothing that lies outside the borders of grief.

Yet I don't know what I grieve for: my wife? my husband? my children, or myself? I can't remember. Most dreams are forgotten, try as one will to remember. Yet later music strikes the note, and the harmonic rings along the mandolin strings of the mind, and we find tears in our eyes. Some note keeps playing that makes me want to cry; but what for? I am not certain.

The yellow cat, who may have belonged to the couple that broke up, is dreaming. His paws twitch now and then, and once he makes a small, suppressed remark with his mouth shut. I wonder what cats dream of, and to whom he was speaking just then. Cats seldom waste words. They are quiet beasts. They keep their counsel, they reflect. They reflect all day, and at night their eyes reflect. Overbred Siamese cats may be as noisy as little dogs, and then people say, "They're talking," but the noise is farther from speech than is the deep

silence of the hound or tabby. All this cat can say is meow, but maybe in his silences he will suggest to me what it is that I have lost, what I am grieving for. I have a feeling that he knows. That's why he came here. Cats look out for Number One.

It was getting awfully hot. I mean, you could touch less and less. The stove burners, for instance. Now I know that stove burners always used to get hot; that was their final cause, they existed in order to get hot. But they began to get hot without having been turned on. Electric units or gas rings, there they'd be when you came into the kitchen for breakfast, all four of them glaring away, the air above them shaking like clear jelly with the heat waves. It did no good to turn them off, because they weren't on in the first place. Besides, the knobs and dials were also hot, uncomfortable to the touch.

Some people tried to cool them off. The favorite technique was to turn them on. It worked sometimes, but you could not count on it. Others investigated the phenomenon, tried to get at the root of it, the cause. They were probably the most frightened ones, but man is most human at his most frightened. In the face of the hot stove burners they acted with exemplary coolness. They studied. They observed. They were like the fellow in Michelangelo's Last Judgment, who has clapped his hands over his face in horror as the devils drag him down to Hell—but only over one eye. The other eye is busy looking. It's all he can do, but he does it. He observes. Indeed, one wonders if Hell would exist, if he did not look at it. However, neither he, nor the people I am talking about, had enough time left to do much about it. And then finally of course there were the people who did not try to do or think anything about it at all.

When the water came out of the cold-water taps hot one morning, however, even people who had blamed it all on the Democrats began to feel a more profound unease. Before long, forks and pencils and wrenches were too hot to handle without gloves; and cars were really terrible. It was like opening the door of an oven going full blast, to open the door of your car. And by then, other people almost scorched your fingers off. A kiss was like a branding iron. Your child's hair flowed along your hand like fire.

Here, as I said, it is cooler; and, as a matter of fact, this animal is cool. A real cool cat. No wonder it's pleasant to pet his fur. Also he moves slowly, at least for the most part, which is all the slowness one can reasonably expect of a cat. He hasn't that frenetic quality most creatures acquired—all they did was ZAP and gone. They lacked presence. I suppose birds always tended to be that way, but even the hummingbird used to halt for a second in the very center of his metabolic frenzy, and hang, still as a hub, present, above the fuchsias—then gone again, but you knew something was there besides the blurring brightness. But it got so that even robins and pigeons, the heavy impudent birds, were a blur; and as for swallows, they cracked the sound barrier. You knew swallows only by the small, curved sonic booms that looped about the eaves of old houses in the evening.

Worms shot like subway trains through the dirt of gardens, among the writhing roots of roses.

You could scarcely lay a hand on children, by then: too fast to catch, too hot to hold. They grew up before your eyes.

But then, maybe that's always been true.

I was interrupted by the cat, who woke and said meow once, then jumped down from my lap and leaned against my legs diligently. This is a cat who knows how to get fed. He also knows how to jump. There was a lazy fluidity to his leap, as if gravity affected him less than it does other creatures. As a matter of fact there were some localised cases, just

before I left, of the failure of gravity; but this quality in the cat's leap was something quite else. I am not yet in such a state of confusion that I can be alarmed by grace. Indeed, I found it reassuring. While I was opening a can of sardines, a person arrived.

Hearing the knock, I thought it might be the mailman. I miss mail very much, so I hurried to the door and said, "Is it the mail?"

A voice replied, "Yah!" I opened the door. He came in, almost pushing me aside in his haste. He dumped down to enormous knapsacks he had been carrying, straightened up, massaged his shoulders, and said, "Wow!"

"How did you get here?"

He stared at me and repeated, "How?"

At this my thoughts concerning human and animal speech recurred to me, and I decided that this was probably not a man, but a small dog. (Large dogs seldom go yah, wow, how, unless it is appropriate to do so.)

"Come on, fella," I coaxed him. "Come, come on, that's a boy, good doggie!" I opened a can of pork and beans for him at once, for he looked half starved. He ate voraciously, gulping and lapping. When it was gone he said "Wow!" several times. I was just about to scratch him behind the ears when he stiffened, his hackles bristling, and growled deep in his throat. He had noticed the cat.

The cat had noticed him some time before, without interest, and was now sitting on a copy of *The Well-Tempered Clavier* washing sardine oil off its whiskers.

"Wow!" the dog whom I had thought of calling Rover, barked. "Wow! Do you know what that is? That's Schrödinger's cat!"

"No it's not, not any more; it's my cat," I said, unreasonably offended.

"Oh, well, Schrödinger's dead, of course, but it's his cat. I've seen hundreds of pictures of it. Erwin Schrödinger, the great physicist, you know. Oh, wow! To think of finding it here!"

The cat looked coldly at him for a moment, and began to wash its left shoulder with negligent energy. An almost religious expression had come into Rover's face. "It was meant," he said in a low, impressive tone. "Yah. It was meant. It can't be a mere coincidence. It's too improbable. Me, with the box; you, with the cat; to meet—here—now." He looked up at me, his eyes shining with happy fervor. "Isn't it wonderful?" he said. "I'll get the box set up right away." And he started to tear open his huge knapsack.

While the cat washed its front paws, Rover unpacked. While the cat washed its tail and belly, regions hard to reach gracefully, Rover put together what he had unpacked, a complex task. When he and the cat finished their operations simultaneously and looked at me, I was impressed. They had come out even, to the very second. Indeed it seemed that something more than chance was involved. I hoped it was not myself.

"What's that?" I asked, pointing to a protuberance on the outside of the box. I did not ask what the box was as it was quite clearly a box.

The gun," Rover said with excited pride.

"The gun?"

"To shoot the cat."

"To shoot the cat?"

"Or to not shoot the cat. Depending on the photon."

"The photon?"

"Yah! It's Schrödinger's great Gedankenexperiment. You see, there's a little emitter here. At Zero Time, five seconds after the lid of the box is closed, it will emit one photon. The photon will strike a half-silvered mirror. The quantum mechanical probability of the photon passing through the mirror is exactly one half, isn't it? So! If the photon passes through, the trigger will be activated and the gun will fire. If the photon is deflected, the trigger will not be activated and the gun will not fire. Now, you put the cat in. The cat is in the box. You close the lid. You go away! You stay away! What happens?" Rover's eyes were bright.

"The cat gets hungry?"

"The cat gets shot—or not shot," he said seizing my arm, though not, fortunately, in his teeth. "But the gun is silent, perfectly silent. The box is soundproof. There is no way to know whether or not the cat has been shot until you lift the lid of the box. There is no way! Do you see how central this is to the whole of quantum theory? Before Zero Time the whole system, on the quantum level or on our own level, is nice and simple. But after Zero Time the whole system can be represented only by a linear combination of two waves. We cannot predict the behavior of the photon, and thus, once it has behaved, we cannot predict the state of the system it has determined. We cannot predict it! God plays dice with the world! So it is beautifully demonstrated that if you desire certainty, any certainty, you must create it yourself!"

"How?"

"By lifting the lid of the box, of course," Rover said, looking at me with sudden disappointment, perhaps a touch of suspicion, like a Baptist who finds he has been talking church matters not to another Baptist as he thought, but a Methodist, or even, God forbid, an Episcopalian. "To find out whether the cat is dead or not."

"Do you mean," I said carefully, "that until you lift the lid of the box, the cat has neither been shot nor not been shot?"

"Yah!" Rover said, radiant with relief, welcoming back to the fold. "Or maybe, you know, both."

"But why does opening the box and looking reduce the system back to one probability, either live cat or dead cat? Why don't we get included in the system when we lift the lid of the box?"

There was a pause. "How?" Rover barked, distrustfully.

"Well, we would involve ourselves in the system, you see, the superposition of the two waves. There's no reason why it should only exist inside an open box, is there? So when we came to look, there we would be, you and I, both looking at a live cat, and both looking at a dead cat. You see?"

A dark cloud lowered on Rover's eyes and brow. He barked twice in a subdued, harsh voice, and walked away. With his back turned to me he said in a firm, sad tone, "You must not complicate the issue. It is complicated enough."

"Are you sure?"

He nodded. Turning, he spoke pleadingly. "Listen. It's all we have—the box. Truly it is. The box. And the cat. And they're here. The box, the cat, at last. Put the cat in the box. Will you? Will you let me put the cat in the box."

"No," I said, shocked.

"Please. Please. Just for a minute. Just for half a minute! Please let me put the cat in the box!"

"Why?"

"I can't stand this terrible uncertainty," he said, and burst into tears.

I stood with some indecision. Though I felt sorry for the poor son of a bitch, I was about to tell him, gently, No; when a curious thing happened. The cat walked over to the box, sniffed around it, lifted his tail and sprayed a corner to mark his territory, and then lightly, with that marvelous fluid ease, leapt into it. His yellow tail just flicked the edge of the lid as he jumped, and it closed, falling into place with a soft, decisive click.

"The cat is in the box," I said.

"The cat is in the box," Rover repeated in a whisper, falling to his knees. "Oh, wow. Oh, wow. Oh, wow."

There was silence then: deep silence. We both gazed, I afoot, Rover kneeling, at the box. No sound. Nothing happened. Nothing would happen. Nothing would ever happen, until we lifted the lid of the box.

"Like Pandora," I said in a weak whisper. I could not quite recall Pandora's legend. She had let all the plagues and evils out of the box, of course, but there had been something else, too. After all the devils were let loose, something quite different, quite unexpected, had been left. What had it been? Hope? A dead cat? I could not remember.

Impatience welled up in me. I turned on Rover, glaring. He returned the look with expressive brown eyes. You can't tell me dogs haven't got souls.

"Just exactly what are you trying to prove?" I demanded.

"That the cat will be dead, or not dead," he murmured submissively. "Certainty. All I want is certainty. To know for sure that God does play dice with the world."

I looked at him for a while with fascinated incredulity. "Whether he does, or doesn't," I said, "do you think he's going to leave you a note in the box?" I went to the box, and with a rather dramatic gesture, flung the lid back. Rover staggered up from his knees, gasping, to look. The cat was, of course, not there.

Rover neither barked, nor fainted, nor cursed, nor wept. He really took it very well.

"Where is the cat?" he asked at last.

"Where is the box?"

"Here."

"Where's here?"

"Here is now."

"We used to think so," I said, "but really we should use larger boxes."

He gazed about in mute bewilderment, and did not flinch even when the roof of the house was lifted off just like the lid of the box, letting in the unconscionable, inordinate light of the stars. He had just time to breathe, "Oh, wow!"

I have identified the note that keeps sounding. I checked it on the mandolin before the glue melted. It is the note A, the one that drove the composer Schumann mad. It is a beautiful, clear tone, much clearer now that the stars are visible. I shall miss the cat. I wonder if he found what it was we lost?