

Castaway

BY ARTHUR C. CLARKE

Most of the matter in the universe is at temperatures so high that no chemical compounds can exist, and the atoms themselves are stripped of all but their inner electron screens. Only on those incredibly rare bodies known as planets can the familiar elements and their combinations exist and, in still rarer cases, give rise to the phenomenon known as life.—*Practically any astronomy book of the early 20th Century.*

The storm was still rising. He had long since ceased to struggle against it, although the ascending gas streams were carrying him into the bitterly cold regions ten thousand miles above his normal level. Dimly he was aware of his mistake: he should never have entered the area of disturbance, but the spot had developed so swiftly that there was now no chance of escape. The million-miles-an-hour wind had seized him as it rose from the depths and was carrying him up the great funnel it had torn in the photosphere—a tunnel already large enough to engulf a hundred worlds.

It was very cold. Around him carbon vapour was condensing in

clouds of incandescent dust, swiftly torn away by the raging winds. This was something he had never met before, but the short-lived particles of solid matter left no sensation as they whipped through his body. Presently they were no more than glowing streamers far below, their furious movement foreshortened to a gentle undulation.

He was now at a truly enormous height, and his velocity showed no signs of slackening. The horizon was almost fifty thousand miles away, and the whole of the great spot lay visible beneath. Although he possessed neither eyes nor organs of sight, the radiation patterns sweeping through his body built up a picture of the awesome scene below. Like a great wound through which the Sun's life was ebbing into space, the vortex was now thousands of miles deep. From one edge a long tongue of flame was reaching out to form a half-completed bridge, defying the gales sweeping vertically past it. In a few hours, if it survived, it might span the abyss and divide the spot in twain. The fragments would drift apart, the fires of the photosphere would overwhelm them, and soon the great globe would be unblemished again.

The Sun was still receding, and gradually into his slow, dim consciousness came the understanding that he could never return. The eruption that had hurled him into space had not given him sufficient velocity to escape forever, but a second giant force was beginning to exert its power. All his life he had been subjected to the fierce bombardment of solar radiation, pouring upon him from all directions. It was doing so no longer. The Sun now lay far beneath, and the force of its radiation was driving him out into space like a mighty wind. The great cloud of ions that was his body, more tenuous than air, was falling swiftly into the outer darkness.

Now the Sun was a globe of fire shrinking far behind, and the great spot no more than a black stain near the centre of its disc. Ahead lay darkness, utterly unrelieved, for his senses were far too coarse ever to detect the feeble light of the stars or the pale gleam of the circling planets. The only source of light he could ever know was dwindling from him. In a desperate effort to conserve his energy, he drew his body together into a tight, spherical cloud. Now he was almost as dense as air, but the electrostatic repulsion between his billions of constituent ions was too great for further concentration. When at last his strength weakened,

they would disperse into space and no trace of his existence would remain.

He never felt the increasing gravitational pull from far ahead, and was unconscious of his changing speed. But presently the first faint intimations of the approaching magnetic field reached his consciousness and stirred it into sluggish life. He strained his senses out into the darkness, but to a creature whose home was the photosphere of the Sun the light of all other bodies was billions of times too faint even to be glimpsed, and the steadily strengthening field through which he was falling was an enigma beyond the comprehension of his rudimentary mind.

The tenuous outer fringes of the atmosphere checked his speed, and he fell slowly towards the invisible planet. Twice he felt a strange, tearing wrench as he passed through the ionosphere; then, no faster than a falling snowflake, he was drifting down through the cold, dense gas of the lower air. The descent took many hours and his strength was waning when he came to rest on a surface hard beyond anything he had ever imagined.

The waters of the Atlantic were bathed with brilliant sunlight, but to him the darkness was absolute save for the faint gleam of the infinitely distant Sun. For eons he lay, incapable of movement, while the fires of consciousness burned lower within him and the last remnants of his energy ebbed away into the inconceivable cold.

It was long before he noticed the strange new radiation pulsing far off in the darkness—radiation of a kind he had never experienced before. Sluggishly he turned his mind towards it, considering what it might be and whence it came. It was closer than he had thought, for its movement was clearly visible and now it was climbing into the sky, approaching the Sun itself. But this was no second sun, for the strange illumination was waxing and waning, and only for a fraction of a cycle was it shining full upon him.

Nearer and nearer came that enigmatic glare; and as the throbbing rhythm of its brilliance grew fiercer he became aware of a strange, tearing resonance that seemed to shake the whole of his being. Now it was beating down upon him like a flail, tearing into his vitals and loosening his last hold on life itself. He had lost all control over the outer regions of his compressed but still enormous body.

The end came swiftly. The intolerable radiance was directly

overhead, no longer pulsing but pouring down upon him in one continuous flood. Then there was neither pain nor wonder, nor the dull longing for the great golden world he had lost forever . . .

From the streamlined fairing beneath the great flying-wing, the long pencil of the radar beam was sweeping the Atlantic to the horizon's edge. Spinning in synchronism on the Plan Position Indicator, the faintly visible line of the time-base built up a picture of all that lay beneath. At the moment the screen was empty, for the coast of Ireland was more than three hundred miles away. Apart from an occasional brilliant blue spot—which was all that the greatest surface vessel became from fifty thousand feet—nothing would be visible until, in three hours time, the eastern seaboard of America began to drift into the picture.

The navigator, checking his position continually by the North Atlantic radio lattice, seldom had any need for this part of the liner's radar. But to the passengers, the big skiatron indicator on the promenade deck was a source of constant interest, especially when the weather was bad and there was nothing to be seen below but the undulating hills and valleys of the cloud ceiling. There was still something magical, even in this age, about a radar landfall. No matter how often one had seen it before, it was fascinating to watch the pattern of the coastline forming on the screen, to pick out the harbours and the shipping and, presently, the hills and rivers and lakes of the land beneath.

To Edward Lindsey, returning from a week's leave in Europe, the Plan Position Indicator had a double interest. Fifteen years ago, as a young Coastal Command radio observer in the War of Liberation, he had spent long and tiring hours over these same waters, peering into a primitive forerunner of the great five-foot screen before him. He smiled wryly as his mind went back to those days. What would he have thought then, he wondered, if he could have seen himself as he was now, a prosperous accountant, travelling in comfort ten miles above the Atlantic at almost the velocity of sound? He thought also of the rest of *S for Sugar's* crew, and wondered what had happened to them in the intervening years.

At the edge of the scan, just crossing the three-hundred-mile range circle, a faint patch of light was beginning to drift into the picture. That was strange: there was no land there, for the Azores

were further to the south. Besides, this seemed too ill-defined to be an island. The only thing it could possibly be was a storm-cloud heavy with rain.

Lindsey walked to the nearest window and looked out. The weather was extraordinarily fine. Far below, the waters of the Atlantic were crawling eastwards towards Europe; even down to the horizon the sky was blue and cloudless.

He went back to the P.P.I. The echo was certainly a very curious one, approximately oval and as far as he could judge about ten miles long, although it was still too far away for accurate measurement. Lindsey did some rapid mental arithmetic. In twenty-five minutes it should be almost underneath them, for it was neatly bisected by the bright line that represented the aircraft's heading. Track? Course? Lord, how quickly one forgot that sort of thing! But it didn't matter—the wind could make little difference at the speed they were travelling. He would come back and have a look at it then, unless the gang in the bar got hold of him again.

Twenty minutes later he was even more puzzled. The tiny blue oval of light gleaming on the dark face of the screen was now only fifty miles away. If it were indeed a cloud, it was the strangest one he had ever seen. But the scale of the picture was still too small for him to make out any details.

The main controls of the indicator were safely locked away beneath the notice which read: **PASSENGERS ARE REQUESTED NOT TO PLACE EMPTY GLASSES ON THE SKIATRON.** However, one control had been left for the use of all comers. A massive three-position switch—guaranteed unbreakable—enabled anyone to select the tube's three different ranges: three hundred, fifty, and ten miles. Normally the three-hundred-mile picture was used, but the more restricted fifty-mile scan gave much greater detail and was excellent for sightseeing overland. The ten-mile range was quite useless and no one knew why it was there.

Lindsey turned the switch to 50, and the picture seemed to explode. The mysterious echo, which had been nearing the screen's centre, now lay at its edge once more, enlarged six-fold. Lindsey waited until the afterglow of the old picture had died away; then he leaned over and carefully examined the new.

The echo almost filled the gap between the forty- and fifty-mile range circles, and now that he could see it clearly its strangeness

almost took his breath away. From its centre radiated a curious network of filaments, while at its heart glowed a bright area perhaps two miles in length. It could only be fancy—yet he could have sworn that the central spot was pulsing very slowly.

Almost unable to believe his eyes, Lindsey stared into the screen. He watched in hypnotised fascination until the oval mist was less than forty miles away; then he ran to the nearest telephone and called for one of the ship's radio officers. While he was waiting, he went again to the observation port and looked out at the ocean beneath. He could see for at least a hundred miles—but there was absolutely nothing there but the blue Atlantic and the open sky.

It was a long walk from the control room to the promenade deck, and when Sub-Lieutenant Armstrong arrived, concealing his annoyance beneath a mask of polite but not obsequious service, the object was less than twenty miles away. Lindsey pointed to the skiatron.

"Look!" he said simply.

Sub-Lieutenant Armstrong looked. For a moment there was silence. Then came a curious, half-strangled ejaculation and he jumped back as if he had been stung. He leaned forward again and rubbed at the screen with his sleeve as if trying to remove something that shouldn't be there. Stopping himself in time, he grinned foolishly at Lindsey. Then he went to the observation window.

"There's nothing there. I've looked," said Lindsey.

After the initial shock, Armstrong moved with commendable speed. He ran back to the skiatron, unlocked the controls with his master key, and made a series of swift adjustments. At once the time-base began to whirl round at a greatly increased speed, giving a more continuous picture than before.

It was much clearer now. The bright nucleus *was* pulsating, and faint knots of light were moving slowly outwards along the radiating filaments. As he stared, fascinated, Lindsey suddenly remembered a glimpse he had once had of an amoeba under the microscope. Apparently the same thought had occurred to the Sub-Lieutenant.

"It—it looks alive!" he whispered incredulously.

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

The other hesitated for a while. "I remember reading once that

Appleton or someone had detected patches of ionisation low down in the atmosphere. That's the only thing it can be."

"But its structure! How do you explain that?"

The other shrugged his shoulders. "I can't," he said bluntly.

It was vertically beneath them now, disappearing into the blind area at the centre of the screen. While they were waiting for it to emerge again they had another look at the ocean below. It was uncanny: there was still absolutely nothing to be seen. But the radar could not lie. Something *must* be there—

It was fading fast when it reappeared a minute later, fading as if the full power of the radar transmitter had destroyed its cohesion. For the filaments were breaking up, and even as they watched the ten-mile-long oval began to disintegrate. There was something awe-inspiring about the sight, and for some unfathomable reason Lindsey felt a surge of pity, as though he were witnessing the death of some gigantic beast. He shook his head angrily, but he could not get the thought out of his mind.

Twenty miles away, the last traces of ionisation were dispersing to the winds. Soon eye and radar screen alike saw only the unbroken waters of the Atlantic rolling endlessly eastwards as if no power could ever disturb them.

And across the screen of the great indicator, two men stared speechlessly at one another, each afraid to guess what lay in the other's mind.