

# The Black Cat

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**Gentlemen Unafraid.**

Florence Guertin Tuttle.

**Born Tired.**

James D. Ellsworth.

**The Invisible City.**

Frank Lillie Pollock.

**The Strayed Finger.**

John Walcott.

**The Man Who Found Zero.**

Ion Arnold.

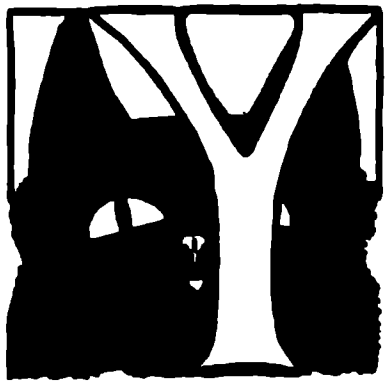


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## The Man who Found Zero.\*

BY ION ARNOLD.



“YOU are my prisoner!” Instantly the glass was dashed from Heston’s lips. A strong hand was upon him. He turned and looked up. It was the Professor.

“Follow me!” he commanded, sternly. Heston arose and followed, trembling.

In the dim laboratory the great scientist turned and faced his pupil. He took from rigid fingers the sheet whereon Heston had scrawled a farewell to the world, glanced at it and tore it up. Then the strong face uplifted and a piercing gleam shot through the shaggy brows. The youth who had not feared to face death cowered before it.

“Heston,” he said, “I knew, when you received word of your father’s bankruptcy that you considered your scientific career at an end — that you are too proud to go on through charity and without genius to win a scholarship. I happened to learn that, with prospects swept away, you have released from her engagement the only woman in the world to you. I saw you steal to that cabinet, and I followed. I looked for the third bottle from the end, the blue vial containing the deadliest alkaloid known to science. You poured out enough for a regiment. You were determined to die. I know your temperament — nothing will stop you.

“All this sounds brutal, but listen. Since you are determined to die, I am going to help you. You shall make yourself blest instead of cursed of men — an immortal. You shall die like a gentleman and a scientist, and science shall bless you. I am going to send you in search of absolute zero!”

Heston nodded, shuddering slightly, and tried to steady his thoughts as he followed the Professor up a flight of winding stairs to an apartment where none had ever been admitted.

“Absolute zero!” he thought; “that point of cold where all molecular motion ceases — 460 degrees below zero, Fahrenheit!”

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Compared to such a temperature, he was now breathing white-hot flame. If creatures from some distant planet of that temperature should visit earth, they would be burned to a cinder in the normal heat of a room. If they touched ice, it would sear their flesh like a brand-iron. If they fell into the crevasse on an Alpine glacier, it would be as if earth-dwellers fell into the seething crater of Vesuvius. Think how ten degrees warmer makes one throw off his outer garments, and ten degrees colder makes one shudder with a chill. Think, now, of four hundred degrees hotter! A man would be reduced to a cinder! Four hundred degrees colder — he would become brittle as a pipe-stem!

A touch of a button by the Professor, and the room was alight. Heston stood silent. Never had he been in so strange a place. In the centre of the chamber, directly beneath the great skylight through which the star-beams played, there stood the strangest mechanism ever beheld by man. It consisted of three globes, one within another, resting on an aluminum engine, as to whose workings the student had no clue and could not hazard a guess. The globes were of crystal clearness. At the upper end of the inner shell, which was of oblong shape, lay a swansdown pillow of lightest silk — at the lower end was a contrivance concerning whose use he could but wonder. He studied it, fascinated, but trembling.

“Behold at once your glory and your grave!” It was the great scientist who spoke, and his voice was the voice of doom — his face like a death-mask cut in solid phosphorus. “In that combination of bulbs, Heston, you are going on a journey that no man has ever travelled. You will make a record of your trip to that remote realm, for you are to be shot upward to the very frontier of our atmosphere — to the threshold of space — sixty miles straight over our heads this minute. There you will find absolute zero. No man has ever seen or recorded it, but science has demonstrated it — and it remains for you to find it!

“The two outer bulbs enclosing your crystal sepulchre are perfect vacuums. They will shut out all cold, all heat, all sound. Without those vacuum shrouds, sir, you could not ascend ten miles without being frozen into a pillar of ice. But in that inner bulb, protected so, you may penetrate the realm of absolute zero, warmed by the latent heat of your body. Below is an aluminum engine,

run by liquid air, with an energy sufficient and a reservoir large enough for your entire journey. At first your flight will be very swift on account of the density of the lower atmosphere, but your later journey will be slower. When you have reached a temperature corresponding to that of liquid air, so that exterior heat no longer makes the liquid air boil and give off power, an automatic arrangement will start an electrical heating current in vacuo, and you will proceed as before. You will make profuse notes of every sensation and experience. When you reach the frontier of space you will be suspended till the last drop of your propelling power has been exhausted, when you will fall.

“ Ah, you shudder, and I do not marvel. Falling from such a height, both you and your machine would simply burst to atoms midway on the home journey. But again I provide for the contingency. The moment the engine stops, an automatic arrangement releases it from you. Instantly from beneath your crystal prison-house there will shoot out a hundred silken-like but immensely strong parachutes, flying upward and suspending you from a hundred delicate but unbreakable strands. Your initial fall will be about four miles a second, gradually decreasing until you reach the earth, sinking as lightly as a feather to your destination. Now, sir, this is all theoretical. I have worked it out to a hair's-breadth by the aid of differential calculus; but there is always the unknown equation. I assure you that you will reach the border-land of space; of your safe return there is one chance in a million. Will you freely go?”

“ I only regret that there is that one chance of a return!” replied Heston.

The cold scientist caught the boy in his arms in rapture.

“ You *are* a brave lad, after all,” he said with faltering voice. “ Sit while I bring you your last supper. You are about to enter upon a long fast, and you need all your strength. You must eat. Heston dropped upon a hard bench, staring past that wonderful life-boat or death-cage, destined for the unknown, up through starry space, his soul on fire, his brow chill with sweat-drops. What a magnificent ending! What a contrast to the shabby exit he had all but accomplished! He sat benumbed.

When the Professor returned with a well-laden basket of food

he gave but one command, "Eat!" Then he turned his whole attention to filling the reservoir of the liquid-air engine and making cautious tests. Five large copper tanks, from which cold vapor fumed and curled downward toward the floor, he brought from an elaborate liquefier connected with the basement dynamo.

But Heston did not touch a mouthful. He simply could not.

"Disrobe!" ordered the savant. The student obeyed, and the Professor produced a strange suit, of the finest web silk, padded thick with swansdown. This feather armor fitted like a glove.

"Take these sheets of parchment and this indelible pencil. Write down everything. Let nothing escape your observation. Watch the barometer on your left and the mercury, alcohol and hydrogen thermometers outside the outer bulb. Now fold your arms. Are you ready?"

Deftly and gently the young man was pushed, head foremost, into his crystal dungeon, and a mechanism was set in motion that was to fill the living tomb with an invisible spray of ozone.

"Good-bye, lad," murmured the Professor, in a voice not without emotion, "I pray to God that we meet again!" but the tone said plainly, "Never!"

The door closed softly upon Heston's living sepulchre, and by the turn of a lever was hermetically sealed. The sudden silence filled him with a strange terror. He saw the Professor moving about, saw his lips move as he rolled back the great skylight, but not a sound nor a vibration penetrated his vacuum coat-of-mail. He was cut off from the world by two walls of nothingness. A delicious breath, like mountain-pine odors, enveloped and refreshed him. He closed his eyes in peaceful resignation. What an exquisite way to die!

"My God!" he cried. There had been a whirr, a throb, a shudder, neither felt nor heard, but he was off! With widened eyes he caught a glimpse of the Professor, his countenance ablaze with triumphant joy, waving a last farewell. Faster, faster, faster! Through the roof of the university dome he sailed like a disembodied spirit, swifter, lighter, with the stars seeming about to fall upon him. He turned his head. Now faded the lights of the great city, dwindling away to a confused blot, the immense blank curve of the horizon lost in a vague blend of clouds. But the

stars — how glorious, how more than bright they seemed! There was not a breath of air to swerve him from his upward course, not the slightest tilting motion — yet now he knew a peculiar whirr which he could feel but could not hear. Up and up and up, faster, still faster, through night and silence he was borne — like a lost soul doomed to wander endlessly through space he flew — a willing suicide, alone with God! He lay limp and quivering. Was this death?

Heston passed into a state of semi-consciousness, but when he woke the sickness and the terror were gone, and he lay calmly in his armor of down. The rich, life-giving ozone penetrated his vitals as a potent drug, reviving him, snatching him, it seemed, from annihilation. No longer the silence haunted, no more the darkness, loneliness, helplessness of his position benumbed him. Through the curving domes of his crystal palace and grave he gazed upon the planets, as if journeying directly into their glorious midst, there to choose a home through all eternity. An intoxication of hope and triumph informed him. The shame, the sorrow, the defeat, the guilt of conscience, were gone. He seemed to have sloughed off all mortal anguish and sensibility to pain as he had laid aside his garments on leaving the haunts of men. The majesty of night, the immensity of the firmament, the glory and perfection of the great Creator of it all — never had their realization so overwhelmed him. At times he seemed sublimated, inspired. No longer was he the accursed worm of the earth. He was one with the stars, the invisible ether, the potent Ego of divinity, coeval with Nature and the Infinite.

He knew that, passing upward at his present stupendous rate, he had already reached a height beyond that ever attained by man. Even this little victory seemed to challenge the ages. On, on, on! He could not travel fast enough to suit the passion now. What though the penalty of it all were death? It would not be the ignoble death he had sought — it would be indeed the scientist's, the soldier's, the king's! His Mentor, far from being a remorseless tyrant, now appeared in the light of a benefactor. He closed his eyes in thankful ecstasy and slept!

When Heston awoke from his slumber it was dazzling sunlight. And such a dawn! Up from the east there shot great floods of

scarlet light — throbbing, quivering, unspeakably glorious. He seemed to be borne aloft through an infinitude of flame. With difficulty turning his head to the proper angle, he caught sight of the great circular blot of the earth, half obscured in fan-shaped stretches of purple and gold. The whirring shudder beneath him was now three times faster than when he fell asleep. The resistance of the atmosphere was less and less and his progress slower, though the engines were working to their fullest capacity. He scanned the thermometers outside. The one containing mercury had burst its bulb. The alcohol in the other had frozen to a yellowish icicle. He turned breathlessly to the barometer. It no longer gave any record. Then at last he consulted the hydrogen thermometer. It registered 246 degrees below zero! His flight had been faster, even, than the scientist's calculations had foretold. He had already covered more than half his upward journey.

Remembering his promise to his accomplice in suicide, he took up the parchment and pencil and began to write. But, like one who arrives in some region hitherto unexplored by man, he found so much to say, and yet so little that he could put into words. Line upon line, in closely-written, terse and teeming language, he recorded as intelligibly as possible his amazing experience, wondering if the words would ever reach a human eye. Often he was compelled to rest, for there was barely room for the movement of his arms, and the brightness of the day stung him to partial blindness. Often he shielded his lids with the parchment sheets.

He felt calmer now, and wished that he had eaten or had food, that he might be sure to live — live to prolong the delicious agony of his unique suicide. Interest in his surroundings compounded, and inspired him. He studied himself no less critically than the vast depths of crimson nothingness that lost him as a meteor plunging out of illimitable space toward the great bosom of the sun, to feed it. He felt colossal in vanity — an atom in reality. His thoughts reverted to the events of the past few days, to his lost home, to the calamities that had crowded upon him — to Her. Would she ever know his fate? How soon would there be a commotion over his disappearance, as sudden and complete as if, on some mountain pinnacle, he had burst to atoms and been blown back to his primeval dust? He knew that one, at least, far down

below, where it was yet gray dawn, sat with eagle orb pressed to the eyepiece of the great university refractor, scanning the zenith, and very likely, as the sun's rays glistened upon his crystal coffin, watched his progress, trembling more for the success of a stupendous experiment than for the fate of its probable victim.

As the sun mounted higher its brilliancy became crucial. It was with difficulty that Heston could make the merest notes, covering his face with his hands continually, the parchment over them. Nevertheless, in that rarefied atmosphere, it seemed that the sun pierced them like X-rays, although its heat could not penetrate the vacuum bulbs in which he was inclosed any more than could the cold. Often he thought he saw the very interior workings of his hand laid over his eyes, so sharp was the light—the bones, the sinews and the ruby blood coursing the veins.

Then came a long lapse into unconsciousness. The intense glare of the almost vertical rays, the faintness of hunger and the strain of an abnormal attitude, both physical and mental, combined to induce a deep lethargy, from which the voyager into unknown regions waked to find the sun low in the west, having passed him like a white-hot projectile shot out of space, curving over earth into space again. Its brilliancy was waning, and he rallied from his stupor. He noted his environment and the slower throb of the engine. Manifestly, he was going at a vastly diminished speed. Already the world he had left was claiming him again, and the mass of 260,000,000,000 cubic miles of solid earth and water beneath was exerting upon his frail shell the irresistible attraction of gravitation, applying an invisible brake to his extraordinary vehicle.

The blue of the sky overhead had deepened to indigo, a mantle of purple and gold dimming the west, where the sunset was even more glorious than the daybreak had been. One by one the stars sprang out of the deep blue vault, more brilliant, more dazzlingly beautiful, with now and then a shooting meteor that, bombarded out of space, seemed to come alarmingly near the rash intruder into these great altitudes, trailing across his pathway an avalanche of effulgent meteoric dust.

There stood Jupiter, monarch of the planets, all his five moons perfectly visible to the naked eye. Far to the eastward blazed



Saturn with his triple belts, no longer a mere speck, but like a lamp of glory hung aloft in a cathedral dome, with Mars opposed, never so crimson, with its wondrous tracery of canals and mountain ranges, revealed to the awed observer as through a powerful glass. He no longer wondered that astronomers seek high places — for could man's greatest telescope be raised to such a height the mysteries of the heavens would be mysteries no more.

Heston's sense of feeling, now rendered extremely acute by hours of absolute silence and deprivation of hearing, assured him, by the feeble beating of the engine, that for a long time he had been going upward through the sunset with a slowness as extreme as had been the velocity with which he had darted up through the dawn, and that he must now be nearing his goal. He looked at the hydrogen thermometer. It no longer recorded temperature, which meant that he had attained a height where the cold was more than 340 degrees below zero, and that the engine was working upon artificial electrical heat in a vacuum, having passed the point where liquid air ceases to give off power.

Even as he looked at the frozen hydrogen he felt a trembling movement beneath him. His heart leaped. That dying shudder meant that the last drop of liquid air was gone, and he had reached his journey's end!

He gazed upward. The spectacle was overwhelming. Every star shone out with thrilling brilliancy. For a long moment he seemed suspended there, pushed up to the very summit of the dome of atmosphere. A vast, swirling, convolving cloud of vaporous blue filled all the heavenly vault. Beyond it he saw, as if it were indeed a wall, the realm of solid oxygen, life-giver of the world, enclosing the earth in a transparent, moving cerulean shell. Beyond that lay the immensity of space.

Yes, for one single instant Robert Heston gazed upon that which no mortal had ever seen at close range — but hardly was he convinced of the triumphant termination of his journey than he felt the engine suddenly disengage itself from his prison, felt a terrific sense of falling — falling faster than ever man or god has fallen since Vulcan was cast from heaven into the sea! He quivered, struggled, gasped — realizing that the end had come. Then he remembered that he must write! But who could record the

mental anguish of falling headlong into the jaws of doom at the rate of four miles a second? He groaned aloud, stiffening for the inevitable crash, yet strangely sensible of all passing experience.

Soon strange forms shot by him on every side, billowing out above him, and he realized that he was hanging in the thin, rarefied air, suspended by a hundred tiny strands, each with a parachute at its upper end, struggling and straining to retard that fearful downward flight, and each second succeeding better as denser strata of the atmosphere were reached. God! How he thanked them! He had now no wish to die. Heart-beats were ages to him. He grew faint and a blurred phantasmagoria swept before him — vivid memories, wild youthful dreams, friends, strangers, loved ones, things beautiful and things hideous — red, green, pushing, crushing — in one mad pageant of man's last hour. Then oblivion brought peace.

"We found it floating in the bay," Heston heard a gruff sailor voice say. "We thought it was a cake of ice with a man frozen in it. But we soon found different, and towed the queer thing ashore. In landing it broke to bits, and we found this stranger insensible, but breathing. We called the cop and the ambulance, and here he is. That's all I know. You medical sharps can make what you please out of it. I'm just telling you the truth."

Heston dozed again. Then he awoke at the sound of a voice, and sharply opened his eyes. Two faces were bent eagerly over him. One was that of the Professor, the other that of his betrothed. Upon the face of the former he saw nothing but intense scientific interest — cold, eager, critical. Upon the other nothing but love — all love, but full of wonder and hope.

"Professor," he whispered weakly, "you were perfectly right. The earth is enclosed in a shell of solid, transparent oxygen. I reached the realm of absolute zero!"

The great scientist gave a short nod and grunt of satisfaction, and turned smilingly away to make some notes, while a pair of soft arms stole about Heston's neck.

"Dearest," he murmured, gazing into the sweetest face on earth to him, "I believe I *do* want to live, after all!"

