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NOVA in Messier 33

A gripping story of warp in space.

BY

Nat (Nathaniel) Schachner

writing as CHAN CORBETT

Astounding Stories

Vol. XIX, no. 3

May 1937

It was with a heavy heart that John Wayne kissed his sweetheart good-by for the very last time. The small field of the mountain airport was alive with activity; the great transcontinental liner was a silver nestling bird in the sun, obviously quivering with impatience to be off. The New York-bound passengers peered out of the observation windows, grumbling at the delay. A pompous official bustled toward the belated couple, watch in hand.

"You'd better hurry, Miss Middleton," he shouted. "We're behind time as it is."

Betty Middleton disengaged herself gently, smiled at the somber, serious face of the man she was going to marry. "Why, John," she exclaimed, "you look as though we're never going to meet again. Cheer up!" she said gayly. "In a week I'll be back from New York, preening myself in a trousseau of silks and satins and fine feathers, trailing glory like a cometary splendor, and ready to become Mrs. Astronomer Wayne."

But her bantering nonsense did not lift the seated anxiety from his countenance. "Listen, Betty," he declared earnestly. "Forget about your trousseau. Don't take this trip to New York. Let's get married to-morrow, here at the observatory. I have a strange premonition——"

She gazed at him tenderly, yet with impish mockery. "And have all the dowdy, matronly Mrs. Astronomers of Kelton Observatory sniff and gossip behind our backs that young Mrs. John Wayne couldn't afford to deck out in the proper finery! I should say not."

The siren hooted; the ground official grew almost apoplectic.

"Besides," Betty flung over her shoulder as she hastened toward the liner, "a scientist has no business having premonitions. They're not quite proper."

At the gangway she turned, waved—a trim, slender figure in white sports costume, her hair a shining splendor against the silvery hull, her blue eyes dancing, yet somehow deep with the pathos of even this short parting. Then she was gone. The compartment shut behind her, the giant propeller took hold with a sudden roar, the gleaming monster lunged, lifted, and soared joyously into the sunlight, higher, higher, clearing the tumbled peaks of the Rockies, drumming along at three hundred miles per hour toward far-off New York.

John Wayne stared until the late-afternoon sky swallowed up both airliner and its precious freight; then he walked slowly over the now deserted field toward the great domed observatory of which he was next in command to Howard Giles. Of course, Betty was right, he berated himself. It was ridiculous for a scientist to yield to unmanly fears, to premonitions. Yet he could not shake off the leaden weight, the conviction that he had seen Betty Middleton for the last time.

His colleagues ribbed him unmercifully. They took time off from their instruments, their calculations, to rally him on his obvious distress; spoke gravely to each other and with malice aforethought of the blighting effects of even a week's absence on love's young dream. New York was simply swarming with personable young men, they averred, and how could a dour, ugly old man like John Wayne hope to hold a beautiful young girl like Betty Middleton, full of life and gayety, against such formidable competition?

John tried to smile at the good-natured joshing, but without success. His years, in spite of his scientific accomplishments, were but twenty-five, and any honest mirror would have told him that his lithe, steel-muscled frame, his tanned, athletic features and steady gray eyes had nothing to fear in the way of competition.

Even absent-minded old Giles, his few straggling locks powdered with the snow of years of faithful devotion to the stars, noticed his young assistant's preoccupation. "What's the matter, my boy?" he asked kindly.

John Wayne took a deep breath. He could not tell the chief of his silly fears. "I think," he said, "I would like a week's vacation. I've been rather going to seed. There's a plane leaving for New York to-morrow at nine——"

A smile of understanding illuminated the wrinkles that seamed the old astronomer's face. "It might be better," he agreed. "But we're a bit shorthanded and——"

"I'll take the observation telescope to-night," Wayne interposed eagerly. "I can grab a few winks on the plane."

It was past midnight. The huge white building was quiet; a thing of semishadows and monstrous shapes. Here and there a carefully shaded light spangled the darkness. Howard Giles was at the fifty-inch refractor, taking meticulous photographs of small segments of the Milky Way. He was preparing a new star map. John Wayne sat at the great one-hundred-inch reflector, his eye trained on the immensely distant spiral nebula known as Messier 33. He was studying its structure, drawing details that photographs would blur into hazy irradiation.

But this one night Wayne's mind was not on his work. His eye examined, and his pencil moved obediently, yet his thoughts were with Betty. In the solemn stillness of the observatory his uneasy feelings grew, assumed fantastic

shapes. It was the first time in his life he had ever been the victim of such primitive fears.

Angrily he tried to concentrate on his duties. Messier 33, he parroted to himself, was an island universe, some nine hundred thousand light years away. There were millions of vast suns in that faint wisp of light, yet so incredibly distant was it that even the one-hundred-inch reflector could not resolve its featureless luminosity into discreet, starry individualities. Never would human eye behold—

His thoughts jerked from their ramblings, focused into razor-edged awareness. Wayne rubbed his eye vigorously. But the thing he saw did not disappear. Instead, it was increasing in visibility even as he watched incredulously.

In the very focus of the spiral luminosity that was Messier 33 an infinitesimal point of light had winked into being. Where, for thirty years of continuous observation, only wisps of extended light had greeted the eyes of astronomers, now John Wayne saw a tiny, stabbing sword of flame.

He sat rooted to the eyepiece, all thoughts of Betty swept from his mind, alive, alert to this incredible phenomenon.

A nova! A new star! Creation!

But a nova such as it had been given to no man to witness before. Figures danced in his brain, sent his senses reeling. This was in Messier 33, almost a million light years away. A star, born out of nebular filminess, flaring into birth. Infinitesimal it seemed, yet to span the yawning gulf between, to pierce his eye with individuality, that pin prick of flame must be of the order of a hundred million miles in diameter.

It was incredible, impossible! Barely a minute before he could have sworn that there had been no such focus of dazzlement in Messier 33; and now—

“Good Lord!” The exclamation burst involuntarily from his lips. In the half minute of his awareness, the pin point had grown, had extended its sway. And it was still growing, moving out in all directions, swelling before his astounded gaze, glowing with a baleful green. The flame of that darting sword across both space and time grew more intense; it seared and dazzled and scorched. A cry of agony wrenched itself from Wayne’s lips; perforce, he swung his eye from the lens. He was almost blinded.

Giles came running up in alarm. “What’s the matter?” he demanded anxiously.

Wayne rubbed his watering, wounded eye. “Something impossible is happening out in Messier 33. A nova is being born.”

“A nova? In an island universe?” Giles lurched toward the eyepiece. Just in time Wayne pulled him away. Grimly he pointed to the dome. Giles stared, gasped.

Directly above the eyepiece, at the focus of the light beams that traveled down the long braces of the telescope, to be gathered in the silvered reflector, and concentrated in the eyepiece, a brilliant spot of light was boring like an augur into the coated steel. A smell of smoldering paint assailed their nostrils.

Wayne sprang to the controls. Feverishly he swung the huge telescope to another section of the sky. In another minute that focused spear of flame from another universe would have irretrievably ruined the mighty instrument.

Then, animated by a common thought, the two astronomers dashed out into the night, stared up into the silent heavens. The mountaintop on which Kelton Observatory stood was a black backdrop of brooding quietness. The air was thin and keen and tart with the rising exhalations of a sleeping Earth. No lights showed in the surrounding huddle of buildings. They were alone in an immensity of time and space.

Now, Messier 33 is not visible to the naked eye. It is not a part of our galaxy; its distance is a million light years. Yet as two pair of eager eyes flung upward into the vastness of the heavens, trained eyes that knew just where to look, a fourth-magnitude star, of an angry, swelling green, glowed faintly where no star should have been—at the very focus of the quite invisible Messier 33.

The light was growing, waxing. Already it was of the order of the third magnitude, expanding on its way to the second. Giles gulped. “We’re witnessing a truly cosmic explosion,” he said in an awed voice.

Wayne gripped his shoulder with unwitting fingers of steel. “Do you realize what it means?” he cried harshly. “That nova is already over a billion miles in diameter—huger than any sun of which we have any knowledge in all the universe. And it is exploding at a rate far greater than the speed of light itself. It represents an entirely new principle in space time.”

Giles, for all his years, almost capered. “Of course,” he said in a cracked voice, “it’s got to be. It’s taking on shape before our very eyes. The speed of propagation of expansion, of the transmission of light across the void, must run to

billions of miles per second. The scientific world will be in an uproar to-morrow.”

Wayne said nothing, shielded his eyes as he stared upward. A shiver passed through him, a wild thought—somehow this mighty apparition was connected with his strange premonitions of the evening.

Sirius, a white jewel in Canis Major, paled before the stranger. Then Jupiter, kingly planet of the heavens, lost its proud preëminence. The nova outshone them all, seemed to gather new strength and intensity with the passing minutes. Its baleful green was concentrated, venomous even. Already it cast green, flickering shadows on the ground. It was an emerald sword, flashing an unsupportable radiance across æons of time and infinitudes of space, searing the eye of the beholder with a light not of this Earth.

“Do you notice,” Wayne said suddenly, “that its path through space is visible, like the long curve of a comet’s tail?”

Giles nodded weak agreement. He found it difficult to speak. From that flaming point, a million light years away, a huge arc swung across the universe, green-glowing like its source, its lancing tip skimming the rim of the risen moon by a few degrees, and darting on and out past the horizon.

The old astronomer finally found his voice. “Then it can’t be mere light waves,” he gasped. “Light is invisible in empty space.”

“I told you it is a new principle,” Wayne retorted quietly. “Perhaps it is a train of propagation in subspace itself; perhaps its energy content is of such incredible power that it burns the space of our dimensional order into dazzling luminance.”

The nova, still a pin point of green fire, was now as intense and brilliant as the full Moon itself. The far-flung arc it had thrown across the universe, the curving sword that seemed a pointed threat to all of space, increased in intensity to an almost unsupportable blaze of fiery wrath. And the Moon, rising slowly above the horizon according to immutable laws, was swimming grandly toward the path of that mighty portent.

Wayne felt his knees trembling; a flood of inexpressible fears coursed through his veins. When the Moon, in its appointed orbit, would enter the pith and center of that flaming signal from Messier 33—

Giles clutched at the younger man for support. His face was haggard and strange in the weird, green luminance. The rounded orb had reached the very edge of the arcing streamer, was entering—

Wayne felt the perspiration ooze from him. The Moon, a great ball of solid, tangible rock, was shriveling before his very eyes. The fierce green splendor lapped it round, bathed its battered countenance, penetrated every pore with blinding effulgence. And the Moon was shrinking, smoothly, rapidly, equally in all its parts, becoming tinier, tinier, until—it vanished. The Moon was gone!

Almost immediately the two men felt a strange weight settle in their beings, an added sluggishness of limb and body, as if—

“It’s an optical illusion,” Giles gibbered. “In a few minutes, when the Moon’s orbit carries it outside of the diffracting glare, we’ll see it again. *We must!*”

But when the required number of minutes had elapsed, there still was no Moon. Wayne’s face was a thunder-cloud as they raced back to the observatory. With feverish fingers they trained the fifty-inch refractor on the calculated elements of the Moon’s position. But the satellite was not there. Even the enormous magnification did not disclose it. The orb had shrunk beyond the vision of the naked eye, beyond the vision of the telescope. It had collapsed to a mathematical point; it had passed even that last boundary into the unknown.

“The Moon is no longer there,” Wayne said with conviction. “I felt it the moment it disappeared. The change in the gravity of our limbs, of the pumping blood in our veins. Its gravity influence is completely removed. There’ll be no more tides; no more—”

“You’re talking sheer insanity,” Giles almost screamed. “How can it be possible? Even if that damned ray from Messier 33 blasted the Moon into invisible fragments, the impalpable dust of the explosion would exercise the same mass attraction. Even if the Moon were annihilated completely, the conversion from matter into energy would have released such forces as to have smashed the Earth wide open as well.”

Wayne stared at him queerly. Perhaps Giles was right—he was going mad. But he had the answer. “The nova has done neither one nor the other. It has done something far more impossible. It has accomplished, on a far mightier scale, something of which we have had only faint adumbrations in the case of the heavy dwarfs—the white companion of Sirius, Van Maanen’s Star, the satellites of Procyon and Mira. They are stars of such incredible density that a mere pint of matter on their surfaces would weigh twenty-five tons on Earth. The atoms of which they are composed are

compressed upon themselves; the electron-proton system of which the atoms, in turn, are formed are likewise packed into small compass.

"Suppose," he went on slowly, "the explosion of this nova in Messier 33 has ripped open subspace, has set in motion forces across the universe which affect, not merely the three-dimensional aspects of the electron orbits, but also their subspace trains, those additional dimensions which Schroedinger's equations imperiously demand."

"Well?" Giles demanded as he paused.

Reluctantly Wayne continued. He was afraid of his own solution. "This must follow, as has followed on a much lesser scale in the case of the heavy dwarfs. The pressure of such an unimaginable force upon the multidimensional wave trains of electrons and protons would collapse them upon each other; would press them inward until the vast intervening spaces between electron and electron would shrink to almost contact. Van Maanen's Star and the satellite of Sirius are but halfway stations on the downward path. Compressed as they are, their atoms are still echoing orbs of emptiness. We saw the Moon shrink, compress, as if a giant held it in a vise and squeezed. It passed the stage of the heavy dwarfs, crushed in upon itself until its component electrons actually jostled each other. Then it vanished."

"Nonsense," Giles said angrily. "Even if your theory is true, even if the Moon is almost a mathematical point, its mass would still exist, would still exercise all its original attractive power."

Wayne arose. His clear-cut features were grim. "No," he answered decisively. "You forget the Relativity Principle. If the Moon shrank to a point where it occupies but a few cubic yards in our space, and its mass focused to something like a million tons to the cubic inch, all our normal laws of gravitation would go by the board. What, after all, is gravitation?"

"The warping or bending of surrounding space because of the presence of matter," Giles answered promptly.

"Exactly. But when matter is compressed to the incredible limits I have postulated, its warping powers over the neighboring field must be of such intensity as to curve the surrounding space time completely around itself. In other words, it has formed a closed unit, a spheroid sufficient to itself, even as our own Einsteinian space time is considered to be."

Giles fell back. "You mean, then," he croaked hoarsely, "that the Moon has been withdrawn from our order of space time into dimensions of its own; that it is there, yet as infinitely remote as the farthest island universe?"

"Farther!" Wayne corrected. "We are in contact with Andromeda by the light which spans the gulf between, by our mutual gravitational attraction, no matter how weak. But the Moon and ourselves have sundered all such connections. It is invisible, for the light by which we see must forever swing around it; its gravitational sphere has no points of entrance into ours. Henceforth Earth must depend on the stars for night illumination, on the influence of the Sun for feeble tides."

There was infinite sadness in the old man's eyes as he stared up at the blank mockery of the heavens where the Moon had once been. "For sixty years," he whispered, "whenever I was tired and weary, whenever life seemed profitless and arid, I had but to lift mine eyes to the calm, silver beauty of the orb of night and peace entered my soul. I have but few descending years—for me it no longer matters. But from whence shall future generations, the youth, the ardent lover, gain that refreshment, that spiritual enrichment which came from the contemplation of the Moon?"

Wayne stared at his chief in surprise. He had not suspected in their several years of association that poetic streak, that mystical core. He himself, far younger, was much more practical.

"If that were all, it wouldn't be so bad," Wayne retorted grimly. "But the loss of the Moon may have much more serious effects: the tides, for one; the elimination of the precession of the equinoxes; the possible dislocation of the Earth's orbit; the incalculable gravity shift in the human body and its reaction on life and evolution."

But Giles was not listening. A sudden spasm of alarm had contorted his aged features. "Good Lord!" he burst forth. "We stand here gabbing of nonsense when utter annihilation stares us in the face. Suppose the Earth, in its orbital swing, should enter the swath of that subspace eruption?"

Thin-lipped, tight-browed, John Wayne sprang for pencil and paper, ripped from their shelves the Nautical Almanac, the Astronomical Tables, Star Atlases, leafed through their contents in an agony of haste. "Quick!" he called to Giles in a strangled voice, "get me the exact coordinates of the nova's space ray."

Without a word the old astronomer went rapidly to the equatorial telescope, set it upon the far-flung curve of green flame, took reading after reading. Then, still without a word, he turned his figures over to Wayne. For a long half hour the younger man's pencil raced furiously, covering sheet after sheet with intricate calculations.

As the last equation spattered its length over white paper, Howard Giles leaned over, surveyed the intersecting

coordinates, said in dull tones: "Earth, then, is doomed!"

Wayne lifted a white face. "It's not quite as bad as that. We'll skim the pressure beam tangentially—a thin, small segment of the Earth's surface will impinge—an arc of about thirty miles, a depth of about ten. The rest of Earth will escape."

"That's splendid," Giles started joyfully, and stopped. There was that in his assistant's face which forbade all joy, all further delight. A swift premonition came to the old man. "Where," he asked slowly, "*is* the point of contact?"

Strange how even, how toneless, Wayne's voice was. "New York City!" he said.

"Oh!" Just that; nothing more. But Giles knew what that meant. A population of over ten million people, a center of world civilization, wiped out, vanished, as though they had never been. And Betty Middleton, for whom Howard Giles had a father's affection, for whom John Wayne had far more——

He leaned forward sharply. Wayne seemed paralyzed, bereft of all faculties. "When will the orbits intersect?" he demanded.

"At twelve minutes past two to-morrow."

The withheld breath expelled in a snort of derision. "You're a fool, John Wayne!" his chief cried out. "That gives us ten hours. In ten hours all New York can be evacuated, and Betty saved."

The young astronomer leaped to his feet. "Of course!" he shouted. "I *am* a fool!" He dived precipitously across the rotunda, ripped the receiver from its moorings, jiggled the hook frantically.

"Hello! Hello! Operator!" he screamed into the mouthpiece.

There was no answer. There was no familiar buzz along the wire. The line was dead!

Suddenly ashen, he turned swiftly to Giles. "Something's wrong. A break in the mountain line!" But already he knew the terrible truth—that the mighty subspace disruption had set up a storm of electromagnetic currents in the surrounding ether which would blanket all electrical systems, all electrical communications.

He could have verified his dread in a few minutes with delicate apparatus, but every second was precious now. He spoke rapidly, hurriedly, racing against time.

"I'm taking the observatory car," he said. "It's fifty miles to Lanesville; there's a branch phone office there. I can make it in less than an hour. And if that line is dead, our only hope is Denver, two hundred and seventy miles along. Meanwhile, you try to establish connection here. 'By!"

"Hold on," Giles declared firmly. "I'm going along. Sanderson can take over."

Argument was futile, and time infinitely precious. In two minutes a thoroughly aghast staff had been aroused, and the car, with Wayne crouched desperately over the wheel and old Giles beside him, his few locks streaming in the wind, was roaring down the mountain trail.

It was a wild ride. Hairpin turns were negotiated at sixty miles an hour; tires screamed and skidded precariously over yawning precipices, while the speedometer needle crept farther and farther over the illuminated dial.

II.

Dawn was breaking over the mountains—a dawn compounded of long, slanting spearheads of the Sun and the tight, green scimitar thrust of the nova. Within the past half hour the latter had not swelled or increased its path; the incomprehensible explosion in Messier 33 had reached its maximum.

It was 4:56 a. m. when the little mining town of Lanesville swam into view, moveless, silent in the early-morning light. Heads thrust sleepily out of windows at their roaring progress, unknowing that in their slumber the familiar Moon had been ravished from the Earth.

Wayne pulled up to the tiny telephone and telegraph office in a spatter of dust and pebbles, catapulted to the ground, heaved the door open with unceremonious shoulders. There was a night operator always on duty.

But even as he crashed into the single-room office he knew that his errand was futile. Merrill, the night man, seemed slightly dazed, considerably worried. Tools were scattered over the tables; the instruments were silent. He looked up in surprise at his precipitous early-morning visitor.

“Howdy, Mr. Wayne!” he greeted.

“Get me a wire to New York, Merrill!” the young astronomer rasped. “Hurry, man! It’s a matter of life and death.”

The operator swept tired fingers over the array of tools. “Sorry,” he said. “No can do. All lines are dead; there ain’t been a peep out of ’em since along midnight. I’ve been tinkerin’ an’ tinkerin’. There ain’t nothin’ seems wrong, yet the dam instruments just won’t work. Mebbe——”

But Wayne was already scribbling furiously on a pad. He ripped off the blank, thrust it in the astonished operator’s hand. “Here!” he almost shouted. “If you *do* manage to establish contact, send this wire to New York. Give it the right of way over everything else. The lives of ten million people depend on it.”

Then he was out like a whirlwind, leaving the gaping man looking foolishly at the slip of paper in his hand.

Howard Giles did not have to be told the news. One look at Wayne’s set, despairing face was enough. Gears clashed furiously, the car lunged forward again. Denver—two hundred and twenty miles away!

At 8:42 a. m. the mile-high metropolis of the Rockies shimmered in the green-tinged sunlight. Once they had stopped for gas, once for a flat tire, yet Wayne had averaged almost sixty miles an hour.

Here was no sleepy village. Already the city streets were jammed with neck-craning crowds, staring upward at the shining portent of that overwhelming green arc whose sear of light outrivaled even the Sun itself. But there was no fear, no terror in their eyes.

A full-blown comet, the secretly puzzled astronomers of the Denver Observatory had announced for public use, while their telescopes, their instruments, scanned the apparition frantically. A comet that somehow had been overlooked, had slyly crept, as it were, upon an unsuspecting Earth.

It was a grand show, a mighty spectacle, and the crowds jostled one another for vantage points of observation. But to the two men in the car, worming their way through traffic-blocked thoroughfares, hooting raucous horn in violation of all local regulations, disregarding red lights, the shrill, indignant whistles of trailing police, it was a terror and a desolation, an impending disaster to millions of unknowing mortals.

But at the telegraph offices they found worried, unhappy staffs. All lines were dead. Denver was cut off from communication with the rest of the world. “Must be that damned comet,” a much-harried official told them. “Our galvanometers are jumping all over the place—gone haywire.”

At the wireless stations the same tragic story unfolded—of fierce static, of ether howls that made even local signals impossible to understand. As for New York—well——

It was 9:10 when the mayor hurriedly arrived. But there was nothing he could do; nothing that any one could do—even aside from his manifest unbelief in their wild yarn. Finally, in order to get rid of his unwelcome visitors, whose names, nevertheless, commanded sufficient respect to save them from jail as cranks, he suggested that they take a plane.

“A plane!” Giles laughed bitterly. “In exactly five hours New York will be wiped out.”

The mayor shrugged. “It’s the best I can offer. There’s a special racing plane at the airport that can do four hundred miles an hour. And perhaps,” he murmured politely, “your calculations may be a trifle in error.”

John Wayne felt his heart hammer like a pile driver. His calculations, he knew, were accurate to the minute. But in five hours——If only to save Betty, to swoop down and snatch her from impending doom—to broadcast hurried warning to the fated city——

“Get us to the airport as fast as you can,” he snapped.

The mayor was a gentleman, albeit a skeptic. Motor-cycle police, come to arrest the scorners of traffic laws, remained as an escort. The cavalcade made the three miles to the drome through city traffic in four minutes flat.

“You’re lucky,” growled the sergeant who clung to the running board. “There’s Pete Halleck warming up his plane now.”

They swept down upon the astonished pilot like a cyclone. In half a minute he had grasped the emergency; in two minutes more all tanks were loaded; and in three minutes flat the speedy plane was zooming into the heavens, Wayne and Giles, white-faced, urging him on to more speed—and still more speed.

The rampart of the Rockies fell away; the Great Plains spread like an interminable sheet beneath. The Mississippi, Cincinnati, Pittsburgh, fled westward beneath them. The gauge quivered at four hundred and thirty-two miles per hour. The plane shook with fierce vibration; the struts howled in the wind; the propeller roared in thunderous accents.

But the Sun crept remorselessly past the meridian, and the great green arc made an ever smaller angle with the horizon. At two in the afternoon they swept over Reading, about a hundred and twenty miles from New York.

“Twelve more minutes,” groaned Giles. “And a hundred and twenty miles to go. It’s impossible to make it.”

But Wayne’s face was a death mask. “Early or late, I’m going there,” he said tonelessly. He leaned toward the motionless pilot. “Pete!” he yelled. “Faster!”

Halleck half turned. “Doing the best I can, Mr. Wayne,” he shouted back. “This crate never did four hundred forty before, and she’s doing it now.”

Already the green swath of flame hung low in the heavens, its dazzling, cruel beauty paling the white radiance of the Sun. Straight ahead its tip seemed to dip and touch the horizon. Straight ahead to the east, where New York City lay, ignorant of its fate. In a few short minutes——

Allentown was behind, Bethlehem gone with the wind. The rolling hills of Jersey came into view. All the sky was now tinged with ghastly green; the fiery sword was broader, lower, more baleful than ever before. The air shimmered and danced; the Sun blotted out; the motor sputtered as spark plugs, caught in strange currents, refused to function.

Two ten!

Newark was a green map in the distance; the towers of New York made a serrated edge on the horizon. The world was an emerald color.

Two twelve!

Straight ahead, as the motor coughed and died, the blinding green swath swooped, impinged on the topmost glittering towers, sank downward until city and glistening river and bay flamed with eerie color. The plane was gliding swiftly on a long, descending slant, but Wayne did not see. All his gaze was on that far-off vision.

A great cry tore at his throat, pierced even the drumming of the struts. Giles groaned; Pete Halleck swore profanely.

New York was shrinking before their very eyes.

The great, proud skyscrapers, interpenetrated with the fierce viridescent flame, transparent almost against the backdrop of the heavens, shrank swiftly smaller, compressed in ordered, equal recession to toy dimensions. The long oval of Manhattan Island, the wide band of the Hudson, the thinner ribbons of the East River and Harlem, the Bay, the spaces of the Bronx, the low ridge of Yonkers, the walls of the Palisades, retracted inwardly upon themselves, engulfed in a swiftly enlarging sphere of black, featureless darkness.

Smaller, smaller, like a picture viewed through the reversed lenses of a powerful telescope; a Lilliputian village, perfect in every proportion, yet infinitely tiny, until—a child’s plaything, a toy floating in a world of tossing night—it flickered a moment—and went out.

Where once a proud city had stood, four square, solidly planted on a solid Earth, a hemisphere of vast, unrelieved blankness now reigned. For a moment its edges were sharp, intact. Then, as the green sword that had slain New York lifted again, rearing its fiery length up from the whirling orbit of the planet, outraged nature rushed in to fill the spacious vacuum.

With a howl like ten thousand cataracts, the atmosphere of Earth hurled itself into the void; with a roar like the massed artillery of the world, the sea poured into the vast depths that had been magically scooped from the solid, perdurable rock.

Pete Halleck saw it coming, cried out desperate warning. He jerked crazily at the controls. But the sucking winds caught the little craft, tossed it from cyclone to cyclone with demoniac glee, sent it crashing to Earth. There was a grinding, splintering sound. Wayne involuntarily flung up his hand to ward off disaster. Then something hit him on the back of his head!

III.

Betty Middleton reached New York comfortably by 8 a. m. that fateful morning. She had slept well in the luxurious cabin of the great airliner, and she was happy. Happy in the love of John Wayne, waiting for her in the Rockies, happy in the expectant thrill that comes only once in a woman's life-time—the ecstatic garnering of a trousseau. The company bus from the Newark Airport had rumbled through Holland Tunnel, emerged into the work-hurrying crowds of New York.

Millions of people—human termites—scurrying to tall office buildings, diving into ornate entrances, unknowing that this was to be their last look at blue sky, at kindly Sun.

The flaming portent from Messier 33 was in the sky, but low on the horizon, its green blaze obscured by soot-laden air, by towering roofs. If any of the hurrying millions noticed the strange apparition, it was with quick side glances. It wouldn't do to be late to work—the boss might be angry—jobs were scarce these days—and the insatiable maw of office, factory and loft swallowed them all.

At two o'clock in the afternoon Betty emerged from her midtown hotel, ready for the day's serious business. She had checked in, tubbed, freshened up, unpacked, had her lunch. The fashionable shops of Fifth Avenue beckoned her. What feminine heart could resist their allure?

There was a greenish tinge in the sky, but she did not notice it. Nor did many of the thronging crowds who hurried interminably along the canyonlike streets. In the offices there was confusion—much swearing and fuming at telephone companies and their ilk. But no panic. Why should there be? The phones had gone dead! Well, it had happened before. In a short time the trouble shooters would be on the job and service resumed. In the meantime it was damned inconvenient. Office boys scurried out of great buildings on personal messages, cocked an eye at the queer green light, whistled snootily at resplendent doormen.

Betty smiled refusal at expectant taxis, walked briskly up Fifth Avenue. The strange green glare grew stronger. It began to be noticeable. But Betty, being a woman, was too preoccupied with her love, the gorgeous shop windows, to wonder much. There was a vigorous tingle in the air that made it good to be alive. A strange tingle, indeed. A sort of pressure that seemed to penetrate her very being, and yet was sharp and keen as of the mountaintops. Her blood was on fire; it raced with the vigor of strenuous exercise.

The glow increased in intensity. People were beginning to stop on corners, to crane their necks, to cluster together. Betty looked up too, stopped short. The sky was a deep, insupportably brilliant green now. There was no Sun. The eerie glare illuminated all the vaulting spires, tipped them with emerald flame. The uplifted faces of the people, too, were becoming ghastly, macabre.

Still Betty saw nothing to be alarmed about. How was she, how was any one in the doomed city to know that they were shrinking to infinitesimal proportions; that the electrons, the protons, which composed alike their bodies, stones, pavement, plaster, automobiles, were compacting themselves to densities compared to which the unbelievable mass of Van Maanen's Star was but a tenuous vacuum?

Everything was shrinking along with them in like degree; they had no yard-stick with which to measure the absolute contraction; and therefore they sensed no difference. And anyway, not many of New York's tremendous population had ever heard of Van Maanen's Star, and fewer still had heard of an unimportant, infinitely remote nebula listed in the catalogues as Messier 33.

“What do you make of it, brother?” one gaping man asked another.

“Search me,” said the second. “Maybe it's an aurora.”

“Aurora your grandmother,” put in a third with conviction. “It's a new kind of advertising campaign. Soon we'll be seeing a bunch of sky writers spelling out some cockeyed tooth paste up there while us poor dopes're breakin' our necks lookin'.” And he walked rapidly away.

But Betty had been scientifically trained, was engaged to a famous scientist. A shiver passed through her. This was not man-made. No human power could evoke this tremendous display. She strained her eyes. There was no Sun, no blue sky. Through the shimmering, dazzling blaze of green could be seen—nothing! Yet the luminous color was transparent.

A hush had fallen on the city. Slowly it began to dawn on the staring millions that nature had gone wrong. But still there was no panic. That would come later. It took time for limited human minds to grasp even the hem of their predicament. The full truth would never come to them. They would have gone mad if it had.

But Betty was alarmed. It was not the flaring green which pervaded everything that bothered her. It was something else. It was the fact that beyond the green flame, where sky and universe should have taken up their sway, there was—nothing.

She was on a side street now, where the crowds were not so dense. An indefinable instinct urged her aloft, where there would be unobstructed view, where perhaps she could penetrate that featureless beyond. On the spur of the moment she stepped into the nearest building. It was of an elderly vintage, but fairly high. The elevator man took her up to the top floor. His eyes were beginning to roll a bit in the penetrative hue, but he had not as yet taken to his heels. He would do that later.

Luckily it was the old-fashioned type of hydraulic elevator. The modern electrics in neighboring buildings were out of commission. The top floor was deserted. There was no one to stop her from mounting the little-used stairs to the roof. Outside again, she gasped. The searing green blinded her eyes. It was deepest emerald now. The pressure on her seemed to have increased, yet, curiously enough, there was no concomitant feeling of discomfort.

She stared upward, shading her eyes against the glare. Again that suffocating feeling of limitless limitation, of boundless green, yet queerly bounded. Involuntarily her eyes went to the west, over the lesser roof tops toward the broad, placid waters of the Hudson. The light that swathed the city was strangely clear and piercing. It almost held the qualities of a lens.

Betty started violently. She saw the Hudson, all right. Its outlines were familiar enough. But she was peering over the cliffs of Weehawken, was seeing beyond their tops. There, rightly, should have been the Jersey flats, stretching monotonously and interminably away to the horizon. She saw no such thing.

Instead, to her incredulous eyes was unfolded a seeming hallucination. The Jersey flats ended abruptly. Beyond them, smooth and glossy, stretched barren, gray rock, glinting with spangled lights in the all-pervading glare.

Then that ended, and green fields took its place—green fields that ran imperceptibly into tangles of suburban houses, then into factories with smoking chimneys. And beyond the factories rolled a broad river, not quite as wide or majestic as the Hudson. Bridges spanned its bosom, bridges that looked horribly familiar. In a shattering daze she saw beyond—beyond to a thickly clustered island, to tall, pinnacled towers.

Betty cried out, but there was no one else on the roof to hear her cry. Trembling at that which she had seen, hoping almost that she had gone mercifully mad, she pivoted to the east. There, as in a mirror image, reversed, she saw what she had just seen to the west. The same buildings, the same East River with its far-flung bridges, the factories, the suburban homes, the green fields of Long Island; then—gray barren rock, Jersey flats, the lordly Hudson, and Manhattan again.

She pressed her aching eyeballs. Turned to the west, she had seen clear around to the east of where she stood; turned to the east, she had witnessed the western reverse of herself. She was viewing clear around a limited world, a world cut off from all the rest, a world in which there was no beginning and no end, a world in which light traveled, not in straight lines, but around and around and around!

Being a scientist's fiancée, she did not go mad. Instead, she tried to think it out. The green glow had been responsible. Somehow New York and its vicinity had been sliced off from the universe, had been infolded in its own space time, its own gravitational field. That accounted for the light rays that went clear around New York. The barren rock that faced both ways was, of course, the sliced undercrust of the Earth. There was no other way to figure it.

Then it came on her in overwhelming flood. She and ten million other human beings were cut off for all time from their universe. They were marooned in a space time of their own. Never again would she see John Wayne; never again would she feel his strong arms around her.

"It's a lie!" she cried out wildly to the unheeding tiny world—that world which could be circumscribed in a day's journey—if day and night held any meaning where there was no Sun, only a piercing green blaze. "I know John won't rest until he finds a way to rescue me. He's a great scientist—the greatest in the world! He'll come for me some day!"

Then panic finally overtook her; she ran sobbing down the many flights of stairs, down to spread her incredible gospel to those millions of others—prisoners like herself.

But deep in her heart, festering like a canker worm, crawled the searing knowledge that John Wayne's premonitions had been only too correct—that never again in either universe would they meet.

By other standards, Betty Middleton was no bigger than a protein molecule; by other standards, Manhattan Island itself was but a thimbleful in size; by those same standards, all of the ravished strip of Earth was not a cubic yard in three dimensions. A Lilliputian world with infinitesimal inhabitants! And even that small, though incredibly dense measure of matter was vanished to a compact, self-contained universe of its own, while the broad Atlantic surged over the yawning gulf where once New York had stood in all its majesty.

In the remote nebula of Messier 33, a gigantic nova, having unwittingly wrought destruction to a wholly unimportant

speck of matter in an unimportant corner of the universe, subsided to a white-sequence star of normal size and normal, three-dimensional energies!

[The end of *Nova in Messier 33* by Nat Schachner]