1938

FANTASY

1938

THE RED MAGICIAN: By John Russell Fearn

# FANTASY

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# FANTASY

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## LONG COMPLETE STORIES OF ADVENTURE



## SCIENCE FEATURE ARTICLE



## THRILLING SHORT STORIES



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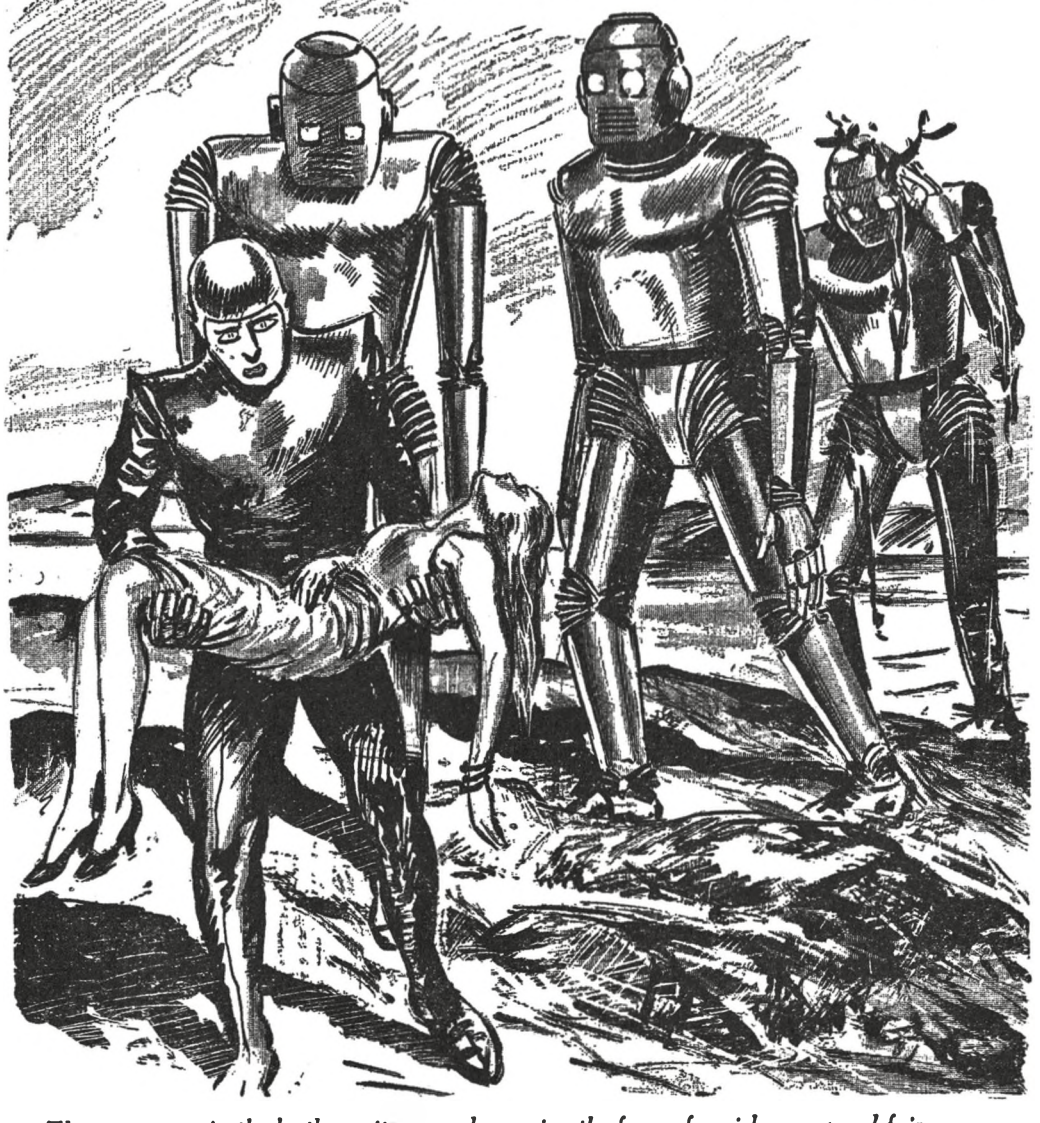
# Menace of the Metal-Men



*The automaton in the leather suit emerged carrying the form of a girl, young and fair. . . .*

## *The Latest and Most Thrilling "Frankenstein" Story*

**Monsters from the Realms of Science, Threatening the World with Domination by Automatons, came Zed Eight and the Metal Men to Conquer the First Territory of a New Empire of Machines. Can this be the Future that Awaits Mankind?**

# By A. PRESTIGIACOMO

## CHAPTER 1

### The First of the Metal Men

THERE was nothing particular about the Villetta Nadir to distinguish it from the other small villas, unpretentious and one-storied, that lay scattered about on the outskirts of the town. But it had become well known since Professor E. I. Sedana, the renowned astronomer and philosopher, had come to live there.

It became even better known when, one morning, the Professor was found by his servant lying senseless on the floor of the corridor, in the attitude and with the expression of a man who has suddenly come face to face with a terrible vision. Put to bed, he had developed a high fever, and doctors gathered round the old man vainly trying to learn what had happened. But he did not recognize any of them.

A careful search was made of all the rooms, but no signs of violence were found. It seemed, however, that someone had visited the Professor on the previous evening and had stayed until very late; also that the visitor and the scientist must have engaged in a passionate dissertation on a variety of subjects, for the table in the library was found to be strewn with books and treatises of all kinds, covering an immense field of knowledge and speculation.

The Professor's servant was a very

methodical woman. She always went to bed at ten o'clock, but not before she had brought her master a vacuum flask of tea, weak but boiling hot. A visitor after ten o'clock at night—and one of whose advent the servant knew nothing —was distinctly unusual.

Who could the man have been? He was alone—this was made clear by the fact that only one armchair, besides the master's, had been found out of place and that only one other handwriting besides that of the Professor appeared on the blackboard.

Nobody knew of the presence in the town of any foreign scientist; but unless the terrible shock which the old man had evidently sustained had been caused by this visitor, how else was it to be accounted for? And that it was due to some scientific revelation or terrifying hypothesis seemed certain, for the Professor had suffered no physical injury.

The Professor looked, in the familiar phrase, as though he "had seen a ghost"; but ghosts do not trouble a scientist of the Professor's eminence. Only ideas—those evanescent, incorporeal "presences" whose influence on human life and happiness may be so catastrophic—and words—instruments more powerful than any that science has evolved—could have affected the old man as he had been affected.

A series of formulæ scrawled on the blackboard seemed to have dominated the discussion or dispute: formulæ concerned with the assemblage of elements familiar in organic chemistry, carbon, oxygen, hydrogen, and nitrogen, which enclose the secret of living matter. But to what end?

The handwriting of the unknown visitor who had traced these formulæ was curious and unnatural, unlike that of cultured people: neat, geometrical, almost typographic, without the slightest variation in shape or strength—as if written by a precocious child.

What terrifying knowledge had this mysterious visitor revealed or foreshadowed, through those formulæ which lie at the foundation of life, to cause the old Professor's emotional collapse? Had his visitor convinced him of the imminent destruction of the earth through some unsuspected comet rushing towards a collision with it? Or was the horror biological—an approaching epidemic of unimagined virulence, a threatened dissolution of all living tissue by some unsuspected force in the universe?

Several days elapsed, yet still the old scientist was unable to give a coherent account of what had happened. Meantime, the secret horror was developing.

THE individual who, at dead of night, left the Villetta Nadir must have been in a very great hurry, to judge—not from his movements, which were so abnormally regular and controlled as to suggest a sort of automatism—but from his rate of travel which, without any change of gait, approximated at times to that of a swift runner.

Soon the town lay behind him, its innumerable illuminated signs, its coloured searchlights, its rows and rows of street lamps, its bright theatre façades and hotel entrances combining to form a uniform soft radiance on the skyline; while millions of stars, pinpoints of light, faint but eternal, scintillated above him. At times he paused abruptly and glanced back to the town; then up to the firmament above; and gesticulated while he muttered and growled incomprehensible phrases, which might have been prayers or, again, might equally have been menaces.

Despite these pauses, he very quickly reached the spot he was making for, where an "overhead" tramway crossed the road. Without hesitation, he turned towards the tramway stopping-place and climbed rather clumsily, but very quickly, on to the platform. As it was so late there was nobody else waiting; but the unknown seemed to fear being observed for he kept to a shadowy corner of the platform, well away from the central cluster of lights. He betrayed neither curiosity nor impatience. On the contrary, he remained perfectly immobile—almost statuesquely so, indeed—in his obscure corner, a creature apparently without nerves.

When at last the red, cigar-shaped coach appeared, announcing its approach by a strident hiss of cloven air and a whirr of propellers, a flashing stream of electric sparks trailing in its wake along the overhead cable, the unknown stepped swiftly forward into the light and waved an arm for the coach to stop.

As the train drew up at the side of the platform, something whitish flickered about the unknown's face. It was a silk scarf of the kind frequently worn by people suffering from neuralgia or toothache ; also by others who simulate these afflictions in order to conceal their identity.

It could now be seen that a black bandage enveloped his head and that he wore the drab, self-striped corduroy of a labourer. Dark brown leather gloves protected his hands.

As he got into the tram there seemed to come from him a muffled clink, as though he were carrying in his pockets bundles of keys or small chains, or simply a large number of copper coins—but the sound was not loud enough to attract undue attention.

From his pocket he produced a workman's season-ticket. In view of what is to follow, it may be as well to state here that the coach, as was afterwards ascertained, was numbered 7131. The driver scarcely turned his head to glance at the extended ticket, which stated on its face that it was one of a batch issued for the use of employees of Messrs. Falqui & Co., and was non-transferable. Since it was apparently valid and quite in order, the driver, making sure that no other passenger was getting in or alighting, pulled the lever before him and set the tram moving at once.

IT was at this point that a little incident happened about which all the passengers—afterwards traced and questioned individually by the police—were able to give unanimous and consistent evidence.

The newcomer was still standing. The sudden start caused him to be jerked off his balance and flung against the frame of the carriage door. The force of the impact was such that almost anybody might have been excused for crying out in pain. But the newcomer gave no sign of having been hurt, and the only sound that escaped him—clearly discernible above the noise of the swiftly-moving tram—was a sort of metallic grinding, as of gears clumsily engaged.

The new passenger hastened to sit down, however, and the momentary curiosity of the onlookers was allayed in view of the fact that both his clothes and the ticket that he still held in his hand suggested that, as a mechanic, he was probably carrying tools or metal objects in his pockets.

The passengers were few, chiefly night workers and theatre firemen returning home ; the women were cloakroom attendants from clubs and restaurants or barmaids from cafés—the elderly ones drowsy, the others smiling and ready for any fun that was going.

There was a group of girls who had been busy till that moment laughing and sniggering at a shy youth who, on entering the carriage, had failed to understand their invitation, and instead of going to sit among them had, in his confusion, patiently picked his way between their outstretched legs to the farthest corner, where he sat with his face as red as a beetroot. Now the girls shifted their attention to the new passenger, with his black bandage and unsteady feet.

Had it not been for his eyes, which, between the black swathes and the white scarf, were the only part of his face visible, one might have thought that he neither heard nor perceived their overtures.

Odd eyes, indeed, with a fixed gleam in them, and singularly glassy. A curious glossy, olive tinge in the iris gave them a feline appearance—except when, for a moment, they seemed to be lit up with an intense phosphorescence. Strange, unfathomable eyes, as the eyes of a cat are unfathomable. Staring eyes, without any precise expression ; for neither the jokes nor the chaffing of the girls, any more than their frequent bursts of laughter, provoked the slightest sign from them that the man had heard. Their remarks became even more personal and impertinent, and one of them observed that things were coming to a pass when a mechanic wore gloves on his hands at the end of May. The man remained imperturbable.

BY the time they had reached their destination the girls had had—to the satisfaction of the scarlet-faced boy in the farthest corner—so much the worst of the encounter that they were reduced to angry silence. Nevertheless, the unknown shrank back in his seat as they passed him so as to avoid any chance

that they might brush against him—as though he were bashful.

But this was a detail which afterwards took on a totally different complexion. For the moment that apparent meekness caused one of the girls to feel rather sorry for him. Her name was Anna Delvaso, a name that was soon to become almost a household word. She was a dressmaker and employed on the late shift by Messrs. Mode and Maraviglie.

" Let him alone," she said distinctly. " Perhaps he's ill."

Possibly nothing good is ever really lost. The unknown had heard, and his eyes, suddenly wistful, shone with gratitude as he fixed them on those of the girl who was about to get out of the tram.

Ten minutes afterwards he too alighted. The tram had covered twenty miles, while the exact distance from the capital, whose lights now showed as no more than a faint halo behind the hills, was twenty-three miles. That distance, too, has a significance in the light of subsequent events.

But the midnight traveller had not yet reached his destination, for the dark mass of Messrs. Falqui's factory lay some eight hundred yards farther on, beyond the motor-car causeway.

The unknown clenched his fists and held them close to his breast while he bent forward a little, in the natural posture of a sprinter, and sped across the fields. In a flash he had reached the causeway embankment, but, instead of turning into the nearby subway, he, with unexpected agility, clambered up to the top of the steep slope.

There before him lay the smooth, asphalted motor road. Despite the lateness of the hour traffic was plentiful, and dazzling headlights from both directions brilliantly illuminated the whole stretch. Nevertheless he did not hesitate. He leapt over the low parapet, and the photoelectric cells of the automatic signallers sent out harsh, bellowing blasts from the alarm sirens as they detected his silhouette moving in the transverse direction across the road. But he rushed ahead as if gifted with wings.

Warned by the sirens, every vehicle on the track had slowed down, and headlights and spotlights had been switched on at full power in an endeavour to make out the nature of the obstacle; and the unknown's audacity would have succeeded in its object with no more than a momentary slowing down of the traffic had it not been for Herr Hans Schmidt's lack of driving skill.

As Herr Hans Schmidt afterwards admitted, there was a slight confusion.

The sirens bellowed. Herr Schmidt applied his friction brakes—instead of using the proper method when carrying a heavy load of reversing the electricity in the motor. His speed diminished by an infinitesimal fraction. Simultaneously, there appeared the silhouette of a man some hundred yards ahead of the vehicle, reduced in a flash to fifty—thirty—ten yards. Herr Schmidt realised the impossibility of a sudden swerve. He remembered then the electric brake and —when he was within four yards of the hurrying figure—applied it. Too late. The figure was but three yards—two—one yard from the front wheels. . . .

One-thousandth of a second, and the heavy motor vehicle stopped with a quivering jerk; it was as though the massive chassis had struck a block of reinforced cement rather than a human being. Herr Hans Schmidt was thrown clean out into the road. From there, he saw his wrecked vehicle being jerked and shaken up and down, as though it had suddenly become lighter than a basket of strawberries. He saw the tangle of twisted steel open as though it were nothing but rubber, and the figure of a man emerge with body and limbs apparently intact beneath his assortment of tattered garments.

Between the dazzling light from passing cars and the black darkness of the night, these limbs appeared to the astonished driver dull-coloured yet with glimmering patches, like—such is the picturesque comparison he used—" like a nigger's who had undergone some bizarre process of galvanoplasty."

Before a word could be said, this amazing phenomenon had risen to his feet, lifted his clenched fists to his chest again, and resumed his swift progress across the causeway.

TAKING hedges and ditches in his stride, the mysterious figure made his way across the meadows and through

the orchards; and he never stumbled, despite the darkness.

A few final, enormous leaps and he had cleared the railway sidings that bordered this industrial district. Now he was at the entrance gate of Falqui's factory, and at once he ceased to be a nonentity and became a personage whose voice caused doors to open and silent shadows to gather and depart again immediately.

He uttered his commands in code; nor did his voice betray the least shortness of breath after his long run. Apparently the peculiar modulations of his voice stimulated hidden microphones, so that lights were switched on and off along corridors and within rooms, electric bells rang, complex apparatus answered questions.

Without pausing, he walked on through corridors and rooms until he came to a door whose panel bore the word "Direction." He entered without stopping, continuing to emit those wordless sounds that proved to be such effective commands. A handle-less door, whose edges would hardly have been noticed by a casual observer, obediently threw itself open.

A staircase leading down to the basement was revealed. The unknown descended into a vaulted passage. Passing through some laboratories, he came to a glazed door with a door-plate which said: "Direction—Private." This door had a handle.

The shadow of a man within, who was excitedly walking to and fro, was cast alternately against each pane. It became still as the noise of the unknown's heavy tread approached.

"Zed Eight, Zed Eight!" a voice called, almost in frantic tones. "What's the matter? What's going on?"

The unknown, thus challenged, turned the handle and pushed the door open. Inside, built into the moulding of the jambs, were revealed the infrangible quartz tubes associated with the production of deadly, high-potential ultra-violet rays. That they were functioning at this moment was clearly indicated by the audible buzzing of an electric generator; and it was apparent that no living being could have stepped across the threshold without being killed on the spot. The man in the room, in fact, had, in spite of his manifest impatience, carefully avoided approaching the door.

Yet he who had been called "Zed Eight" not only dared pass through the door, but stood waiting just within the doorway.

STANDING in the midst of the deadly rays, yet immune to them, a creature superior to mankind's common mortality, Zed Eight spoke with a note of proud confidence:

"My Creator, my God, my Master and Lord, I hailed you on my first day of knowledge. Now I call you merely Father. No longer Master or Lord, since this very night I have received confirmation of my being able to become myself Lord and Master of everybody.

"You, Narcisio Falqui, look at me, standing unharmed on this threshold, to cross which would mean death to anyone else. Behold me unaffected and unimpeded, my power at its zenith. Look and listen. As my Inventor and my Father, I shall love and honour you; but, considered as a Will possibly to be directed against mine, I put you aside and face my destiny, a destiny which to-night appears to me wonderful indeed.

"At the beginning, you thought I might be a slave, to amuse and to serve your fellow-creatures. That was your mistake. The positions are reversed. This dawn that should have seen the beginning of a victory won for you by a legion of slaves, marks the inception of a victory still yours, if you like, but directed wholly and solely according to *my* will and to serve *my* purposes."

Contempt and fury had been the predominant feelings expressed by the attitude of the individual to whom these words had been spoken; but now he appeared to be overcome by sudden emotion. Falling on his knees, wringing his hands and smiling convulsively by turns, Narcisio Falqui, a prisoner in his own factory, appeared to be the victim of, at one and the same time, an exultation and a painful tenderness towards this being, his creation.

"Son!" he burst out at last. "This is the miracle I have achieved! A creature able to reason! I have made him myself! His power, his prodigious power, his certain triumph—all mine! My creature!"

There was about Zed Eight something lacking, something stiff and puzzlingly inhuman, which made it difficult for him to express by a gesture or by any eloquent inflexions of the voice what doubtless he felt. Only the constant changing phosphorescence of his eyes bore testimony to the fact that his mind was in a whirl of pride, astonishment, and ambition. Yet he spoke.

"O Father, be calm! The time for action has already come. I have been about too much, and rumours and terror are likely to spread. For the triumph that my very existence forecasts will be so overwhelming that nothing can stand against it. Therefore I am impelled to haste. In your own original project, too, the beginnings were to be deliberately planned but rapidly executed. What in your scheme, however, was a matter of tactics and policy, becomes in mine an urgent necessity. So I must request, first, immediate action; secondly, several modifications of the existing plan, in order to accomplish within ten days the task that was to take a month.

"I know to the last comma all your plans—the instructions to be communicated to the banks for the release of the capital you have lodged with them long since; to the contractors for the supply of materials; to the Guild of Mechanics for an army of skilled and specialised workmen. I know, word for word, the commands stored up in the phonorecorders, for the foremen, moulders, turners, artificers of all kinds. They are good so far as they go, but I want you to arrange the modifications necessary to accomplish the plan I require.

"You know that it would be useless to oppose my wishes. You know that I have the means to obtain by force all I want. You have had a demonstration of my power in the ease with which I made you a prisoner—and also an indication that I have overlooked nothing. Is it now willingly—or unwillingly—that you choose to do what I want you to do?"

No answer was necessary. Zed Eight's words, his imperious manner, his swift, logical thought and immense determination, had seized upon the imagination of Falqui and dominated it.

Of the further discussions, arrangements and planning upon which this strange couple engaged—the human genius and the creature immune from death which his brain had created only to become his master—it is unnecessary to speak. The laboratories and workshops were soon crowded with mechanics; the machines began to throb; and on the morning of the twenty-ninth of May, the air about the Falqui factory was quivering with the reverberations of the machinery inside.

## CHAPTER 2

### In the Falqui Factory

THAT morning Viola Falqui—the engineer's daughter—had risen early, too. The university examination was soon to take place, and, sitting in the garden on the roof of the skyscraper where she was living, she was engrossed in the preparation of her examination thesis.

She had brought up with her several big volumes and was dictating her notes into the mouthpiece of the phonorecorder. Now and then she paused to insert into the machine some colleague's notes or the lecture of a professor, and listened while they were read aloud to her.

Except for a short visit to St. Peter's before noon, she had decided on a full day's study. But suddenly all the phonosignallers in the building started to call for her, modulating into a subdued tone the buzz-buzz signifying her name.

"Oh, what a nuisance! It would be for me, wouldn't it? What? A phonoradiovision for me? Very well! I'm coming down."

Had it only been a phonoradio call, the ordinary telephone over which she had been talking to the doorkeeper would have been sufficient. But the phonoradiovision required a complex, specially constructed apparatus which the Falquis did not possess at home.

Engineer Narcisio Falqui was notoriously well off, but for many years he had lived quite parsimoniously. And the girl, as she went down in the lift to the doorkeeper's offices, was thinking that this call was going to be a costly business for the person who was making it—

being so early in the day, it would be charged at the nightly rate. It must be a case, she decided, either of extreme haste or of too much money.

VIOLA entered the booth and switched on the light. Then—as her own image was carried over the light waves to the caller at his own station—she realised that her second hypothesis was the correct one.

On the photogenic plate before her a figure was beginning to emerge, clear and vivid as in real life, till at last its lips moved and it spoke:

"Hullo—Hullo!—at last! Viola!"

Viola recognised a distant relation, Donaldo Falqui, born and living in Northern Canada, a descendant of a member of the Falqui stock who had emigrated, and was now so rich that he possessed farms and lands covering an area sufficient to sustain a small nation.

"Hullo! Yes, I'm Viola. Oh, I recognise you, Don, although you look somewhat changed! Well? How are you getting on?"

There was an interval of "atmospherics" during which the young man's figure appeared ridiculously altered and twisted.

"Viola! Ah, you're there again, are you? For four hours I've been endeavouring——"

"What an exaggeration!"

"What? Do you think it's of my own choice that I'm here 'phoning at this time of the night?"

"But we Romans call it only a little past six in the morning."

"Maybe. Anyhow, I've been unable to go to bed, as I had the unlucky idea of ringing up your father."

"Well, why didn't you? They have the phonoradiovision apparatus at the factory!"

"I know, but the darned thing's been continuously engaged! Whoever's using it could have read him the whole Bible by now. Who is likely to be wanting him for so long?"

Viola shrugged her shoulders. "If Father spends more of his time in the laboratory than at home, presumably he works while he is there."

"No doubt. Meanwhile, I've been blackening my soul by cursing everything in heaven and on earth trying to reach him—not to mention how much it has already cost me in thousands of dollars!"

"Well, Don," said the girl, making an effort to smile in spite of the characteristic irritation she experienced every time she spoke to this moneyed cousin of hers, "you haven't yet said where you're making this contact from."

"Haven't I? I'm on an electroboat of the Transatlantic Line."

"What—coming to Europe? Are you jesting?" Viola exclaimed. "Fancy spending four days on the water when you could have been at the aeroport of Ostia, at Rome's door, in less than twenty-four hours!"

The image of the big young man before her laughed.

"Is that all?" he remarked.

"What 'all'? Are you mad? Isn't it anything to you to save three days?"

"And when I've saved them, what am I to do with those three days?" Falqui inquired, laughing.

"You're proposterously prehistoric! Is that what comes of living in Canada—you develop into a museum piece?"

"Canada's all right," Falqui retorted. "Give me the peace of the open spaces—wide prairies and endless forests. I hate the rush and the mechanised life of the cities. I don't know how you can stand a civilisation dependent on machines for everything——"

"Please, Don, stop this rhetoric! It sounds too much like a proclamation by the Union of Agrarians! Come over in a sailing-vessel, if you like, but do shut up!"

"Very well, and may I hope you will send somebody to Naples to meet me when I land there next Sunday, the first of June, at 4.30 p.m.?"

The girl burst into sudden laughter.

"What a joke if, in spite of the thousands of dollars you're spending to inform us of your arrival, nobody met you!" she cried. "But don't worry. I'll be there myself to welcome you."

The image of the young man became comically dismal.

"I hope you'll—er—remember that I'm not—er—not a modernist" he warned.

Viola's laugh broke out anew.

"All right, Don, I'll remember," she promised, "Anyway, Father's been far too worried with car taxation to have

added aeroplanes to his establishment. It'll just be a very quiet drive in my electro-car."

"Now, that's better. I perceive that when you choose you may even achieve kindness. And, let me tell you, you'll lose nothing by it."

The smile vanished from Viola's face.

"What exactly do you mean, by that?" she asked coldly.

"Haven't I always said that as soon as I was of age I'd like to help your father?"

"Are you referring to the commercial activities of the factory?" Viola inquired.

"Certainly; if your father will agree to scrap it and use the land for farming or some such sensible object——"

Viola broke in, indignantly.

"Don, listen!" she said. "You're rich and you may be generous, but you're a stupid fool all the same. Good-bye!"

"Same to you!" came the indignant reply. "Did you think I'd reached the age of twenty-five only to become a victim of your father's inventive passion? Even on board here we've a couple of robots. Latest-model robots that say 'good morning' and 'good evening,' waiting for you at the smoking-room door with the latest edition of the radio-newspaper——"

But the booth was empty. The girl had reached such a climax of irritation that she had waited to hear no more.

VIOLA rang up her father to inform him of Don's visit. But as she could get no other answer for two consecutive days than a subdued miauling from the phonoagenda, she decided on the third day, May 31st, to deliver her message direct to the instrument.

Distinctly she said: "*For Narcisio Falqui. Daddy. Don is arriving. As conceited as usual. I shall bring him to the factory on the evening of June 1st. Viola.*"

Directly someone at the other end of the wire chanced to interrogate the phonoagenda, it would repeat her message.

She was not at all anxious. It was not the first time that her father had remained so absorbed in delicate experiments that all communication with the outside world was broken off for days. Still less did she think of interrupting her own studies to go herself to the factory.

Instead, she worked with such a will that, by the following day, she had succeeded in completing the dictation of all her notes. Then she allowed herself a short respite.

She went out to a restaurant to lunch on good natural food instead of the usual synthetic aliments in capsules. Afterwards, she spent an hour or so at the Conservatorio listening to classical music transmitted by radio from Melbourne, where a renowned orchestra was giving a programme of Stravinsky.

Towards three o'clock she returned home, dressed herself with unusual care, and at half-past four she was waiting on the pier at Naples, nearly two hundred miles to the south of Rome.

The *Neptune* arrived late—it was some three-quarters of an hour overdue; and by the time three or four minutes had been taken up in mooring the ship and in sending out from the quay the revolving plank bridges for landing, Viola's wrist-watch showed twenty minutes past five. And still Don had not appeared.

"The stupid creature must have taken offence and has landed at Gibraltar!" thought Viola. Her regret was so intense that she failed to notice two things: the first within herself—a mortification due not so much to the disservice she had rendered her father as to the fact that she had dressed so carefully and it was of no avail; and secondly, the proximity of a tall, dark young man with a frank look in his dark blue eyes, who was staring perplexedly at her.

It was Don! On board, that morning, he had obeyed an unprecedented and mysterious impulse. He had bought a smart lounge suit, a brilliant affair of iridescent checks, red, blue and yellow, after the latest fashion, and was now so transformed—and so attractive-looking—as to be quite unrecognisable by Viola.

She, too, had discarded her trousered, grey-striped overall—which resembled that of a mechanic—and was in her turn unrecognizable to Don, who, by phono-radiovision, had always seen her in that practical garment. She was dressed now in a frilled, peacock's-tail patterned skirt reaching to beneath her knees and a silken, peach-blossom coloured jumper.

In order not to spoil that harmony of

line and colour, she had taken off her driving coat of orange paper, and the light garment dangled from her white-gloved forearm, brighter than a sunlight brushstroke.

TO the bewildered Donaldo the girl seemed as beautiful as a " star " of the phonochromofilm.

Their eyes sought each other.

" Can it *really* be you, Don ? " the girl exclaimed at last.

" Are *you* Viola ? " he countered, no less amazed.

Having identified each other, they mentally regretted having betrayed themselves by their interjections ; and as is the way with young people, they chose to hide their real feelings under an affection of indifference and even brusqueness.

" Look here ! " Don began gruffly. " I'm sorry if I annoyed you the other day, but the truth is we don't see eye to eye about anything, so the less we say the better."

" Just what I was thinking myself ! " Viola cried gaily. " You'll learn a little common sense some day, no doubt, but it's not my job to teach you."

They got into the electro-car silently.

Nevertheless, Don could not refrain from expressing his disgust from time to time as they passed through the great coastal town whose streets bore an endless lattice-work of antennæ—aerial cables for electric trains, for elevated tramways, for the movable cranes of the docks. The sky showed moving aero-vehicles of all sorts in their commercial colours, and the city itself reminded one of the scenery of an ancient theatre, which swayed and changed crazily with the movements of the revolving bridges and of the colossal black sunstorer.

From the motor-car causeway, their eyes caught, over the fields, a panorama of thermic nets, of chromatic greenhouses, and of masses of hydraulic tubing between farms, wells and silos and the windmill generators of electricity.

Viola, meanwhile, after a sidelong glance at her companion, had assured herself that he was a singularly attractive young man. For, in spite of her determination to graduate in the prosaic subject of Physico-Chemistry, she was no less susceptible than most girls of twenty. Nor could she help thinking that this first visit of Don Falqui to Europe was a romantic occasion, for she saw in it an analogy with a former romance.

Twenty years ago another Falqui, as rich as this one, had also arrived from Canada. Had he, too, she wondered, received a somewhat stormy reception at the hands of a Falqui girl, as fair as she and with mother-of-pearl eyes like hers ?

It was yet not quite seven when they entered Rome. They drove at once to the hotel at which Don was to stay. The streets of the metropolis were packed with the usual crowd of workers—clerks, middle-class people, and small farmers paying an occasional visit to town, who paused open-mouthed before every shop-window or, heedless of the hootings of the electro-cars, stood still in the middle of the road to gaze up at the sky.

Aeroplanes of the " Luminous Advertising Company " were spreading out above the skyscrapers a cloud of opaque, silvery gas. And scarcely had this immense aerial screen been completed before a hundred shafts of light converged on it from below, turning the very heavens in a fluorescent hoarding for the slogans formed by the myriad beams.

ON Monday morning, June 2nd, Viola returned to fetch Don, who was sulkier than ever, and in a quarter of an hour they reached the Falqui factory.

Here a surprise awaited Viola. All the entrances were closed, and from within came a continuous buzzing. White sprays of vapour rose intermittently and vanished in the air. This vapour could only have been caused by the cooling water round the cupolas of the huge electric-ovens, while the noise told her that many machines were working.

Viola—to Don's great annoyance, for he thought she was posing—became very excited and voiced her disappointment at every door that would not open.

" Daddy has resumed work, then ! What can have happened ? " she murmured, remembering her father's vow never to start work again until he had realised some new type of perfect robot, making mass production worth while. " He must have got his perfect robot ! "

she exclaimed. " Oh, Don ! We must get in to see him ! "

She came to a disguised entrance, once used when work had been in full swing by the Corporation Police for their surprise inspections in regard to hygiene, working hours, and system of work. Instantly there returned to her memory the specially-modulated words of command which she had so frequently uttered in mock seriousness when a child : " Door, Wolf Two-seven-six-six, open yourself ! "

She repeated the words now in the precise, fixed modulation. Immediately, the photoelectric apparatus that worked the lock set the mechanism working—the whole section of wall slid sideways, and Viola's electro-car entered through the opening into a dimly-lit yard.

The yard, too, must have been under the survey of photoelectric cells, for the car had hardly entered when alarm bells burst into shrill warning. Simultaneously, as if hurled by a spring, a dozen human-shaped figures rushed wildly at the car.

Viola had no time at all to think of the brakes. The yard was sloping and the car was moving down it at a fair speed. Nobody could have avoided a collision, and there was a crash. But against those frail-looking shadows the car stopped at once and with such violence of impact that Viola and Don were jerked right out of their seats and thrown forward.

It seemed certain that they must crash to the ground five or six yards ahead, but at that moment another human shape supervened—saw, understood, and rushed forward with his arms extended to receive their two bodies.

Anyone else would have fallen heavily. He, on the contrary, by means of a slow but precisely synchronised movement, absorbed the shock of their hurtling bodies without even losing his balance. He abandoned Don, who came to rest on the ground ; but he kept gentle hold of the girl, who had fainted.

Don realised to his amazement that he was not hurt, but before he could understand properly what had happened, he was lifted by a hand endowed with herculean strength, scrutinised without being recognised, and deposited outside the door again.

IT had all happened in a few moments ; even the contrivance that operated the door had not yet had time to shut it again. Through a slowly diminishing opening, Don had time to see Viola, inert in her orange driving-coat, being carried inside. But when he was able to get to his feet, all he could see before him was a blank wall, and no proof whatever that he had not just experienced a fantastic dream.

" Viola ! " he called repeatedly at the top of his voice, receiving as answer only the monotonous whirr of machinery working inside the factory.

Yet the girl must be unhurt also, he thought ; and by now she had had time to explain who he was and get him admitted. After an hour of waiting in vain he turned away, perplexed and nonplussed. And when, at length, he managed to find his hotel again, it was already noon.

The first thing he did was to dash into a telephone booth ; but for all his vociferous energy, he could not get himself connected to the Falqui factory. Time after time, no matter which apparatus or system he chose, he could get nothing but the " engaged " signal.

Then the last shreds of his self-control gave way. He began shouting in the foyer like a madman, insisting that there must be some message or communication for him. Yet there was nothing ; not a phonoagenda contained a line or a phono-message for him.

He went out into the streets and loitered about, aimless and unhappy.

And there came from somewhere a sweet smell—and a voice from a loud-speaker averred, " . . . glad to state that this is the only essence I like. Sincerely yours, Lina Birichina ! Do you hear ? Enter at once to secure your bottle of the perfume which is preferred by the famous star of Variety."

Donaldo cursed impatiently.

Were these the interests that obsessed this mechanical age ? he asked himself. This city was advertisement mad—and suppose that Viola and her father were dominated by the same preoccupation ? Suppose that affair in the dim factory yard had been merely another advertising device, a trick to impress and puzzle him ?

Returning to his hotel in a sudden mood of anger, he removed his smart suit. He put on one of his paper suits with a green pattern of small discs, after

the fashion of the Agrarians, and stayed indoors all day, vainly waiting for a message that never came.

Thus passed the 2nd of June.

## CHAPTER 3

### The Man who knew Everything

THE story which had fed Viola's romantic imagination as she drove Don from Naples to Rome on the evening of May 31st had been a story of work and enterprise, as well as a love story.

And on the morning of June 3rd the Roman branch of the Industrial Argua Company was busy unearthing from its archives the details of that almost forgotten affair.

A phonotypist scanned some notes and then proceeded to read them aloud into the mouthpiece of the phonotypewriter. Aware that the head clerk stood behind her, she made her fingers flash on the keyboard, and as one by one the pages left the platen, the head clerk took and perused them :

Rome, June 3rd, 1997.
Mechanics General Trust—New York.
Gentlemen,

In reply to your telegram of yesterday stating that it has become known to you that work has been resumed in the Falqui factory and requesting us to furnish you with all possible information about the past and present activities of the aforementioned concern, we, to-day, at eleven o'clock local time, by photoradio and with No. —— pages are transmitting the following confidential text :

The Falqui factory was founded in the year 1950 by the Engineer Guido Falqui, who aimed at mass production of electric automata that, at the time, sold largely as shopwindow mannequins and advertising robots.

In 1961 this business passed through a bad time owing to the lack of success of a costly model—G.3—in which, for the first time since robot production, iron ribbons were used for the magnetic registration of sounds.

It was exhibited in a public library. At rest, the robot remained sitting inside a special booth. When somebody requested a book, after having found in the catalogue the corresponding press-mark, they quoted it distinctly to the robot.

What happened within the robot is elementary. It had as many registrations in the phonomagnetised wires within its head as there were press-marks in the catalogue. And every phonoregistration needed—this was studied and settled beforehand—so many gestures and paces on the part of the robot to go and fetch the desired volume. Just a machine, in other words, that started into action directly the borrower's words went through a microphone to stimulate the corresponding phonomagnetised ribbons.

In practice, however, the G.3 proved to suffer from so many limitations that its use was rapidly abandoned. For one thing, every new book acquired by the library needed further registrations with an adaptation of paces and the complex movements required. In conclusion, it was found to be difficult to tend and expensive to produce, as it was not possible to standardise the type, unless one could first standardise the libraries with the position of their rooms, dimensions and the placing of the shelves, the books and so on.

The evolution of that model had, however, cost a lot of money and its failure was a severe financial blow to the Falqui concern.

But other shocks followed : an especially grave one was caused by the model " L.9 " in 1969, type " Cicerone," which appeared that year in the Galleria di Arte Moderna.

A skilful application of a photoelectric-cell system bestowed on it a sort of eyesight. It stopped before every picture, making now and then an appropriate comment. But this was not all : it kept for every picture or piece of sculpture exhibited a number of answers to questions which had been selected from among the most usual and frequent to be expected from the visitors.

It was a remarkable improvement on the preceding models, inasmuch as it could depend upon its phonomagnetised iron ribbons not only when they had been stimulated by sounds of definite duration and number of syllables—as in the case of the G.3—but also with a more or less arbitrary turning about of words.

But the fundamental reason for its lack of success lay in its extreme delicacy, high consumption of current, and costly production.

In 1970 Engineer Narcisio Falqui appeared, a relative of the late Guido Falqui, founder of the firm. He was born in Canada and was known to be very rich ; so, appealed to for financial help, he came to Rome.

But on his arrival it appeared that he was prepared to give his financial assistance to his cousin only on certain terms. In effect, his proposal was that the firm should be put into liquidation and some sort of agrarian undertaking substituted. The visit, therefore, promised very little for old Falqui.

Then an unforeseen, sentimental factor came into play. The Canadian Falqui fell in love with the daughter of the Roman one —a girl of singular force of character who, while returning the feelings she had roused,

made the prosperity of the factory a condition of marriage.

And the newcomer not only ended by agreeing to the condition, but became the technical collaborator of his father-in-law.

Ten years later, the whole Falqui family, with the exception of Narcisio Falqui and his little girl, then three years old, were destroyed by the " explosion " of a sun-storer.

Since then the survivor has lived an almost completely secluded life in his laboratories. Nevertheless, he has continued to study and to experiment; and it appears that his intention has been to evade the provisions of the *Law of Limits of Mechanisation* (which forbade the manufacture of machines likely to eliminate the human factor altogether) by the creation of a new model, the " Slave," which will be capable—as indicated, indeed, by its name—of functioning under the direct control of human beings and so be unlikely to contravene the law either in fact or in spirit.

As to the actual results of his experiments, these are kept so secret that not even we have been able to ascertain them. We only know that the factory has been kept ready for any sudden resumption of work on a large scale; and also that the engineer has employed special robots of his own make to excavate and fit out further workshops underground.

We, too, are informed of his resumed activity. We understand that the Corporation of Mechanics has supplied 1,300 workers, who are working in continuous shifts, taking their meals and rest within the factory. They have agreed to have no communication with the outside world until their work is completed, and in these circumstances this is evidently not expected to last long.

In conclusion: from all we know and have herein referred to, we think that the Falqui factory is about to produce in series a new type of robot of unquestionable merit and reliability.

END of the reserved and confidential text.

Invoice enclosed.

We remain, Gentlemen, etc.

The head clerk, when he had finished reading the exhaustive document, gave a murmur of satisfaction and strolled over to the window for a moment's relaxation. A huge, dazzling red sign, right across the *Tribuna's* skyscraper, caught his eye.

What he read and what all the loud-speakers in the metropolis were giving out was the following message:

" The eminent scientist, E. I. Sedana, has requested an urgent convocation of the Supreme Academy of Europe, to-day at 11 p.m., for dealing with an imminent danger from mechanisation by means of automata."

THE Roman section of the Mechanism Party had been thrown into an uproar. In fact, that Party, which constituted the extreme right in Parliament and was backed up by the aristocracy and the rich, anticipated nothing but advantages from an increasing mechanisation of society.

The Left Party was that of the Agrarians; and all the various Corporations of Workers acted as Centre, preventing either one or the other of the extreme parties from prevailing. So the leaders of the Corporations had heard with indifference of the new offensive on ideological grounds against the Mechanists. Ideologies did not move the working classes in those times, for they were chiefly preoccupied in preventing any changes in the material conditions of living, apparently unaware of the influence of ideas and ideals on material existence.

But the Mechanists, who thought they possessed an aristocracy of thought in their anxiety for progress and scientific perfection, were furious when they heard that a famous scientist was to open this new offensive.

They had rushed to the Academy in great numbers, filling all the space reserved for the general public, creating an uproar, and getting in the way of the phonoradiovision reporters, so as to make it difficult for them to erect their cameras on their stands.

Fights broke out, and a big, dark young man, abounding in Canadian curses and recognised as an Agrarian by his clothes, soon became, chiefly owing to his energy and his knowledge of boxing, the object of their bitterest resentment. So much so, that they almost forgot the real origin of their agitation, and the venerable Professor Sedana was able, almost unnoticed, to take his place at the tribune and begin his speech.

" Honourable colleagues, ladies and gentlemen! " he said, in a voice so faint that it was only made audible by virtue of a phonomultiplier in the hall—" what I must urgently communicate to you, in this most fitting of all places, is not a theory, nor even thoughts, but facts. I beg you to be quiet for ten minutes."

The faint voice and ironical words somehow led to a cessation of the obstre-

perous bawling of the listeners. Every ear became attentive.

"LAST Wednesday, May the twenty-eighth," the old man went on, "from my library at the Villetta Nadir I heard, about eleven o'clock at night, a knock on the door. I opened the door myself and showed in a visitor, who, to judge from his clothes, was a mechanic. He wore a white scarf about his face, and his head and forehead—— "

The description that followed was lost in an uproar that was as transitory as it was abrupt. When it was possible to hear the scientist again, he was saying: ". . . voice singularly distinct and atonic added: 'I have called because I am on the eve of a great decision and first want somebody of great learning to examine my extraordinary intellectual powers."

"I felt irritated at first by his conceit and peremptory request to be examined. But at last I said, 'Very well, tell me which are the four fundamental operations.'

"I was struck by the brevity of my visitor's answer; he had, it seemed, entirely missed my sarcasm. 'Who was Napoleon?' I then asked.

"And again he missed the sarcasm. But this time the reply was not brief. He quoted the most authoritative biographies, monographs, and historical works, the dates of their publication, the number of this and that page. . . .

"Now I am not an historian. To control my man I had to lead him into other spheres, so I interrupted him. I asked him to tell me what he knew about the physics of the stars. And I didn't realise that I had played completely into his hands. So, when the same process was repeated and he began quoting numbers of pages, dates, authors' and editors' names with the most varied references, I began checking his assertions. I had nearly all the works he quoted in my own library, and soon my table was littered with heaps of books; but I was unable to discover any notable mistakes.

"I was bewildered. But up till then I had tried only my visitor's memory. My stupefaction increased when I gave him some problems to solve, and especially odd was the sense of measurement and space that my unknown revealed in writing on the blackboard. He did not once fall into the error that even the most consummate mathematician cannot always avoid, that of making a bad initial disposition of his equations, thus being obliged to rub out the whole thing and begin again from the start.

"Some time since, I had heard the clock of the old tower chime midnight, and in the mystery of the night and with this stranger, the gaze of whose eyes, in the hidden face, was as inexpressive as his toneless voice, I confess I felt most uneasy—even, a little afraid."

THE old man paused, and the phonoradiovision reporters took the opportunity to get their apparatus into working order; which meant that all the world by now formed one huge, curious audience.

"For all that, I did not yet give in," the orator continued. "I had tested his memory and his intelligence. I was hoping now to see whether the stranger revealed the possession of that mental gift that is leader to thought—the fancy, I mean—without which even great intelligence is unable to make for itself goals to aim at.

"On my table I had the incomplete manuscript of a scientific work I am engaged on. I hinted to him its premises and the basic principles on which it proceeds. On these hints, he must guess or create my purport. My visitor allowed himself but a few instants' meditation—and then——

"But of what use to go on? I had to acknowledge my defeat. 'It is no longer I who can examine you,' I stammered, 'but you, perhaps, who can judge me.'

"And in his rough simplicity my visitor did not understand that I had only meant to suggest politely to him that I had no more to say. He saw the compliment as a real proposal, and asked: 'Which do you think more important: the actual individual and his transient happiness, or the definitive triumph in the universe of human thought and future life?'

"As an impartial scientist, I obviously had to answer that the only important thing is the conservation of thought and

culture, the definitive triumph of form in the unformed, of Life in the cosmos, not the individual's welfare. Yet, I do not know why, I felt no longer impartial; I felt jealous, reduced to my elements, a man—faced by a question that seemed to me sly and insidious. I equivocated. 'Well,' I said, 'it would first need to be demonstrated that it is not the actual individual who can best achieve that final result.'

"Alas! It is so easy to prove the precariousness of all beings unable to endure the consequences of such an insignificant thing as a variation in the terrestrial temperature of 100° F. over or below the normal. There were a few chemical formulæ, a few objections—and the unknown had the better of me.

"Dismayed, pervaded by a curious anxiety, I went on: 'Yet those formulæ that you have just written are those which symbolise living matter, and I do not see what could be more suitable than for humanity to achieve any possible aims and objects which, after all, derive precisely from human culture and thought.'

"'But it is evident!' was the reply. 'More suitable than humanity there may come superhumanity, a superhumanity comprised of beings with more resistant organs and limbs, endowed with a much longer existence, and of a prodigious and exalted intellectual power.'

"I smiled. 'Possibly,' I said, 'but I shall not believe it until such beings appear.'

With no change in his indifferent calm, the unknown, who had already turned to leave, paused a moment, staring at me with those inexpressive eyes of his. 'Very well,' he said. 'Go on waiting—so—for fifty days—or not fifty days even. Less, much less than that, I may, as a special courtesy, inform you.'

"He had already turned, and had reached the corridor. Then it was that I suddenly apprehended about him an indescribable suggestion of something not human, of a raw, almost sinister *newness* emanating from him, as if my interlocutor had been an inhuman monster.

"'But you—you can't leave without letting me know whom I have received into my house and spoken to. Who are you?' I cried, rushing after him and catching hold of him. And as I touched him my blood ran cold and I stood paralysed with horror. Through the stuff of his suit I had felt but a metallic surface—and I caught a glimpse of what was mostly hidden by the bandage round his head. There were inelastic mouldings in the place of ears!

"So I fell—I am old—and the horror I felt overcame me."

## CHAPTER 4

### Zed Eight

VIOLA'S fainting fit had been brief, and as her senses returned she had a confused consciousness of being carried in two strong arms against a broad chest. Remembrance of prior events flashed through her mind. She thought of her cousin Don, and, still in a state of confusion, believed it was he who carried her.

But it was Zed Eight who carried the girl in his arms. He went downstairs until he came to a well-known door with a plate on it that bore the inscription "Direction—Private."

He lowered Viola on to a settee and placed a folding screen round her to mitigate the effects of the electric fan. Then he went discreetly away.

Only then did Viola open her eyes. "Don!" she called out, her mind still confused.

She sat up with a jerk, and was astonished to find herself in her father's private office. As she rose she saw her father hastening towards her.

The girl flew into his arms as if to seek refuge against the threatening danger. But when her first alarm had passed, she recognised that his joy at seeing her had quickly vanished. He seemed absent-minded, intent more on the noises from the machinery round him than on her words of explanation. But he showed interest when she told him about Don.

"The man who was with you in the car was Don? . . . It is not altogether inconvenient—their packing him off like that. We've other things to think of now!"

"Then it's true!" she exclaimed. "You've resumed work in all the build-

ings ! You've completed the model, Zed Eight ! . . . I'm so glad, Daddy ! . . . Although, of course, it worries me to think that it is enough to make you forget me ! " the girl added reproachfully.

Engineer Narcisio Falqui was nearly sixty years of age and rather tall. But the continual leaning over the drawing-board, and the sustained mental effort of his occupation had curved his back and made him look older than he really was. The preoccupations of his intensely active life had turned his hair prematurely white.

" Oh, yes, we are working down here now ! " he agreed. " Falqui's time has come at last—or rather, Zed's time, I should say. And we can do without Don now ! "

Viola had thought the same thing that very morning. Curiously enough, she felt sorry now.

" The Zeds," her father went on, as though only half-conscious of her presense—" are a phalanx that will run—run—run—— "

" Run ! " Viola, by an effort of will, pretended enthusiasm. " It is to be the ' Slave ' type, isn't it ? A thing that you've kept secret even from me ? "

She was interrupted by a sudden gesture from her father.

" Then you don't know who went to save you ? " he said. " It was Zed. But—yes, you were faint—you haven't thanked him."

Visibly agitated, he rose to his feet and told an attendant who was at that moment passing the open door to ask Zed Eight to come.

" To thank !—to ask ! . . . But, Father ! . . . A robot—a slave ! " Viola exclaimed in amazement.

A cold terror crept upon the girl as she looked at her father. Smiling, yet with an expression of deference on his face, Falqui was staring at the doorway as sounds, mechanical and precise, were heard approaching along the corridor.

HALF-FORGOTTEN in the industrial competition around him, Narcisio Falqui had isolated himself in his laboratories, studying the construction of a robot perfect both in the sense of indestructibility and the number of ways in which it could be employed.

Special metallic alloys had made it practically indestructible, while its limitless adaptability had been achieved by means of a series of remarkable inventions.

These inventions were based first on wires for the magnetic registration of sound, and, secondly, on photoelectric cells.

He had photomagnetised ten thousand capillary strips of inoxidisable iron to register short, essential reasonings concerning numerals, arithmetic, the alphabet and all matters likely to arise in the normal course of existence.

After this he had made a special selector which communicated with two microphones that acted as ears, and, according to the spoken sounds it heard, responded immediately by affecting the appropriate sensitive wires. For instance, the word " draw " produced certain stimulation in the appropriate wire ; the word " triangle " a different but corresponding stimulation.

And so, hearing the command : " Draw a triangle," the special selector was able to produce the proper impulses. The photomagnetised wire concerned with " drawing," being directly stimulated, put a mechanical hand in motion, while the wire concerned with " triangle " so re-acted that the lines actually being drawn took the form of the desired figure.

There were photoelectric cells, too, which supplied the sense of sight. Some thousand fundamental images ; alphabetical letters, colours, designs, animals, etc., replaced, by means of a clever contrivance, by electric impressions, had been magnetically fixed into other corresponding wires, furnished with a selector of their own but connected to the aural-selector.

In this way more complicated orders could be executed : to *draw* a tree ; to *climb* a tree ; to *saw* a tree, etc.

Besides the photomagnetised wires for the fundamental images, the photoelectric eyes had at their disposal other wires capable of retaining any given image, however transitory, and useful for the registration of secondary images. In fact, they supplied the optical memory for a short time, a thing essential in everyday life. For it is a useful thing to be able to adapt oneself to a number of changes ; to forget the rooms one lived in yesterday, to learn the disposition

of the rooms in the new house, and so on.

In this way, by being impressed and re-impressed, the usual images became familiar and the robot could be directed towards a *certain* tree ; could recognise *that* tree ; and would climb *that* tree . . . !

It is unnecessary to mention the functions of the hundreds of other contrivances—those for equilibrium, for the various movements of the limbs, for the positions necessary to exert effort. The metallic limbs, set in motion by *similradium*, could withstand terrific strains.

HAVING arrived at that point, after ten years' study, Narcisio Falqui made the Z.2 type "Slave." He constructed twelve other robots exactly the same, and on the basis of their construction he prepared all the necessary tools and machines to produce two thousand standard robots a month. And so he fixed a date at which to start work. . . .

But the long study, the continual sufferings, had worn out his energy, shaken his confidence. And as has happened to so many inventors, he came to doubt the success of his creation.

What he had managed was a marvellous thing ; but he had got used to it, and no longer appraised it at its true value.

What the inventor needed was a period of rest to restore him to normal health. But what fell to his lot was anything but a rest. For whereas he had been thinking in terms of ten thousand photo-magnetised wires, now he was being compelled to think in terms of one hundred thousand or more.

By wonderful feats of drawing and ingenious adaptations, he transformed everything that was massive in Z.2 into skeins of magnetised wire and often managed to obtain several parts which functioned both as muscle and brain at the same time.

In the place of the elementary principles, complex emotions were now registered. Working day and night, special reading and speaking machines "fixed" all the illustrations and contents of the thirty-six big volumes of the "Great Universal Encyclopedia," together with treatises on philosophy, mechanics, advanced mathematics, and all branches of science, as well as volumes of history, literature, and so on.

Millions and millions of *perceptions* were stored up in the atoms of the magnetised wires—as they are stored up in the so-called cells of the human brain—and the marvellous selector worked as the human mind works, where the larger the number of memorised items, the greater appears the intelligence and the swifter seems the psychical mechanism which selects and compares them by a complex process which we call *thought*.

With improvement after improvement, the photoelectric cells had become two artificial eyes of unbreakable quartz, furnished with dilatable iris and movable lids and brows ; behind which was a mechanism capable of storing not one but ten thousand images.

They were eyes which could *see*. . . .

The Z.2 had only three rudimentary senses : touch, hearing, and sight. Taste and smell had now been added by a chemico-magnetic contrivance, not because they might serve to control a nutrition of which there was no need, but merely to complete the new automaton's psyche. In the same way, although they were practically useless, the instincto-psychical qualities of the male had also been added. A sense of direction like that of a pigeon had been inserted, as well as the magnetic pre-perception of invisible obstructions which is peculiar to the bat, which can fly in absolute darkness without colliding with anything. Also the magnetic personality upon which hypnotism depends.

At this stage, after two years of work, there was not a hundredth of a square inch left blank on Narcisio Falqui's drawings. And then the assembly and erection of the new human shape, Z.8, commenced.

Wire after wire, cog-wheel after cog-wheel, reel after reel, plate after plate, all the glittering tangle, all the complicated, indestructible machinery was built.

Narcisio Falqui, who had forgotten the world, forgotten life, stood hesitating before his creation. Would it function ? With trembling hands he introduced the rechargeable, energetic capsules of *similradium* into a hollow in the chest. With still more convulsive gestures he screwed the secret key up into the hollow and applied the initial electric charge that would vitalise the inanimate man of metal.


*The flame-thrower sprinkled him from head to foot, and before he had time to turn off the tap he was on fire*

THEN something happened. The tangle that he had assembled jerked into motion; the mechanical limbs stretched themselves out as if the creature was waking up; the eyelids lifted and the striking pupils of quartz became phosphorescent.

A shrill twitter of words followed, excited and meaningless like a young child's, and continued until the internal selectors got the eyes' vision in accord with the senses' perceptions analysed by the brain. . . . Afterwards there was a stupefied silence.

Falqui's dreams had become true; the machine was thinking.

"I——" was the first word the machine said, rising and moving unsteadily forward.

Trembling, Narcisio Falqui realised that he had constructed that wonderful thing that is an individuality, an ego.

Z.2, the "Slave," had been a machine with limited reasonings, capable only of performing the bidding of others and unable to think for itself. But here was a machine capable of exercising will.

The automaton which, in the first consciousness of life had stared wonderingly at the inventor, now came close to him; then, crouching before him like a dog, in the instinctive attitude of all created beings, he cried: "My lord! My father!"

This had happened on the first day. Afterwards, little by little, Zed Eight perceived that if his creator's intelligence was great, his own was even greater.

He walked out, he went about the town. Arm in arm with Falqui—who, having created a superman and not a slave, did not realise that he was losing a little of his authority every day—the new creature strolled along the streets dressed in a suit of clothes and unrecognisable for what he really was. Ambitions developed; the desire of emulation. He saw, he learned, he understood; and in this manner he livened the dreary book-culture with which he had been charged, and acquired an interest in life.

THE light from the open door of the room now revealed him to the bewildered Viola as she stood there with her father.

She saw that he was slightly above average stature. What could be seen of his slender body outside the usual corduroy suit worn by mechanics, seemed stiff, and his iron-grey hands were shining at the joints. But the similarity to a machine ceased here, for his face was human and his eyes revealed thoughts.

How could the face, being inhuman, appear to Viola to be so singularly human?

What had happened was simple. The face had been moulded in natural colours by the engineer—the copy of an imaginary young man with a thoughtful and frank expression. A whim of the cast had somehow made it a striking likeness to another face: Donaldo's.

And to make that impression more striking, the automaton's eyes, like Don's, had expressed a feeling of admiration behind the veil of apparent shyness and studied indifference.

The impression on the girl had, for the moment, been so agreeable that she smiled. Then the sight of her father cringing and absorbed in the automaton gave her an intuition, vivid and sinister, of what this meant. She had a momentary vision of mankind subordinated to the power of such machine-men. Her feeling of pleasure instantly became something unnatural and repulsive, and before Zed Eight could catch her, she had fallen to the ground in a dead faint.

The girl's look of horror had been unmistakable. Zed Eight had understood. Narcisio Falqui, livid with apprehension, covering his face, saw the automaton's features register disappointment. Yet in his eyes there was no flash of resentment, but a different feeling altogether. . . . Sadness.

"Where there is sadness, there is a man," Shakespeare once wrote. The machine had become a man.

It withdrew without a word.

But the inventor, fearing the automaton's anger, remained stupefied. And it seemed to him impossible that if Zed Eight so willed, Viola—or anyone else in the establishment—could escape from the factory or communicate in any way to the outside world the news of the two thousand "slaves" in course of construction. Other robots, as has been seen, were watchful everywhere inside the walls of the factory.

IT was not until Tuesday, June 3rd, that the existence of Zed Eight was made known to the public by the speech of Professor Sedana.

Widespread doubts were expressed as to whether those extraordinary revelations were true, and an inquiry was ordered.

Evidence supplied by the passengers in the tramcar was sufficient to trace Zed Eight's journey back from Sedana's house to Narcisio Falqui's factory. The delegates and officials of the Workers' Corporation at once went to the factory.

It was the morning of Wednesday, June 4th.

The factory was found to be closed and barred. An order was given for the police to scale the walls. Sergeant Ettiore Molini led the way; and it was written that this humble man's name should appear in history as the first man to become a victim of the Industrial Wars of the World. He had hardly reached the top of the wall before he was seen to fall. He had been killed instantly. It was inferred that the walls were electrically protected.

It was necessary to call out a battalion of soldiers to surround the walls and keep the crowd away from danger. Meanwhile the news of these astounding happenings had spread and the wives and children of the 1,300 workmen engaged in extraordinary and continuous work inside the factory began to gather at the spot, greatly agitated.

It was soon necessary to double the number of soldiers on guard to maintain order in the crowds, and it became evident, towards evening, that the future conduct of the affair now rested with the Government.

Marco Mundus, head of the Government, took immediate action. By means of messages thrown over the walls he made it clear to those within Falqui's factory that they must cease all activities and that every workman must be released within twelve hours.

The twelve hours elapsed on Friday, June 6th, and, as the factory did not obey nor give any answer, Mundus commanded the fire-brigade to study the situation and carry out an invasion of the building. But the firemen could not get inside the building, and the responsibility was accordingly transferred to the Army. Panic began on the evening when the crowds first saw tanks move along the causeway. . . .

That, however, was only the beginning. On the following morning, Saturday, June 7th, they saw siege guns arrive at the railway termini on their huge carriages. The newspapers reported that the militia was mobilising.

The presence of 1,300 workmen inside the building was the reason for reluctance to use forcible means of obtaining entry. Was the situation grave enough to warrant the possible sacrifice of all those men? An attempt to penetrate the walls through breaches made with dynamite had failed owing to the protection of ultra-violet rays; and Mundus hesitated to give the order to bombard the factory.

Towards noon on that day, 200 workmen were allowed to leave. They were the foundrymen and they were greatly bewildered when they saw their wives and relatives waiting anxiously for them as if there had been a mine disaster.

They knew nothing. Work had been carried on in such a way as to leave them unaware of the real importance of the task on which they had been engaged. They knew that they had been working on robot limbs; but they knew little of the advance that had been made on previous models.

Nevertheless, Mundus guessed that within the factory work must be nearing an end. Any further delay in destroying the automatons might lead to irreparable consequences.

At 3 p.m. the militia swept the crowd back from Falqui's factory over a wide radius and an order was given to raze everything to the ground. A squadron of forty bombing aeroplanes rose into the air, and at 3.12 p.m. the first bombs crashed on to the factory, making the earth tremble as if a volcano were in eruption in the neighbourhood.

The squadron-commander was Air Marshal Vittorio Lagreca. He had taken the whole thing for bluff, and the mission he had been given—which he mentally qualified as " a dull massacre of puppets " —bored him.

But when the yellowish-green dust from the explosion cleared away, something singular caught his eye at the side of the motor causeway. About a thou-

sand men ran wildly across the fields, and in the empty space behind them other swift dots were scattering themselves in an orderly fashion, spreading out widely, as if on army manœuvres.

It looked at first as if the militia were charging the rabble. But it did not take long for the Air Marshal to realise his mistake. This was not a "rounding-up." Those figures down below were ranging themselves in military formation.

It was a queer formation, too. Each man was a hundred yards from the next, all advancing in the form of huge squares, while here and there shell-holes would suddenly appear inside the squares as the bombardment proceeded.

In a sudden fury, the Air Marshal understood. The people he had seen rushing away across the fields were the remaining workmen, who had evidently been let out of the factory; while the others, who seemed to be drilling under a bombardment, were those he had called "puppets"—the automatons.

## CHAPTER 5

### Machines Against Men

SIGNOR MARTINO BONAVENTURA might have been thought as wise a gentleman as he was an excellent vegetable-grower. He was as genuine as any of the thousands of potatoes he had grown. And a corner of his garden overlooked the River Tevere.

Martino sat in his garden reading his paper. He gave a sigh. Yesterday's bombardment, the turmoil of robots marching on Rome and being stopped with difficulty at nightfall by the defensive floods resorted to by the Army, the story of machines fighting against men—all this had become far too puzzling for him to understand.

But the absence of girls bathing in the river on that glorious morning, which should have brought them out in scores, was quite as puzzling. He was wondering at the reason for it when he saw dimly in the water below a moving shadow which rose to the surface. It soon reached the bank and emerged slowly.

Signor Martino saw a sort of armour which recalled to him in some ways the metal-plate suit worn by deep-sea divers.

Such a thing had never been seen in the Tevere!

The singular diver, parts of him glittering in the sun while the rest was covered in mud, was completely out of the water by now. He paused to look about him, evidently trying to discover his whereabouts, and his head-piece being covered in muddy weeds, he wiped the front part of it with his hands.

In this way even Martino could see and understand clearly that the diver was something more or less than a man.

He felt petrified with terror and tried as best he could to conceal himself behind tufts of grass.

Notwithstanding the fact that it was Sunday, preoccupied people passed this way and that in the distance. They were, however, not interested in the river, and no one gave the alarm. Presently a second robot came out of the water; then a third and then a fourth. And then others appeared at the rate of three or four a minute and crouched beside the first-comers.

This had been going on for nearly a quarter of an hour—although to Martino it seemed an eternity, as in a nightmare—when a new individual appeared and added drama to the affair in an unforeseen manner.

This being was a robot, but not so tall as the others, who were very tall indeed. He was not naked, but wore leather garments and might easily have been mistaken for a man, had it not been impossible for a human being to walk on the bottom of a river as indifferently as one does on a good road.

He appeared to be the leader, and he surveyed the river bank with much more attention than his fellows had done; so well, indeed, that Martino ceased to be merely petrified and started to shudder at the thought that he had been discovered.

There seemed no danger of that at the moment, however; the newcomer must have judged that the place was quiet enough to carry out his plans, which, to Martino, seemed as illogical as they were gruesome.

The leader stooped in the water to look at something and emerged again, lifting the form of a girl, young and fair.

Placing her on the bank, he returned to the water and re-appeared carrying the inert body of an elderly man.

Why two corpses should be in the hands of the automatons was a mystery which made the observer shudder anew; and when he saw the automaton in the leather suit push them over to a bathing-barge moored in the river and into the dressing-room, that houseboat lost all its attractiveness for him.

THE episode had taken place so quickly that Martino thought it simply a figment of his imagination. Until, after the manner of dreams, he found himself transformed from spectator to protagonist. He suddenly heard a metallic voice say: "Don't make a noise, and perhaps you will be allowed to live. Who are you?"

After a long minute of paralysing terror, Martino was able to murmur: "A vegetable-grower."

"Your house?"

Martino pointed vaguely back: "It's near here."

"Which way?"

"Through that mushroom-bed. . . ."

For communication between the river and the orchard was by means of an old tunnel beneath the road, which still served the purpose of an artificial mushroom-bed.

By this time the leather-clad automaton had come out of the dressing-room. Without trying to conceal himself, he went down a stairway and up a path on to the bank, relying on his suit, no doubt, to escape detection at a distance. Having heard the last words of Martino, he walked along the tunnel and, coming to the orchard, saw, not far off, a house and a tiny yard, where a woman—who resembled Martino as only a mother can resemble her son—busied herself by the hen-run. He then returned to the trembling vegetable-grower.

"You are a very lucky young man," he said, "and your future lies in your own hands."

So saying, he produced a rubber pouch and took from it a bundle of banknotes.

Martino judged that there were some hundred thousand lire in it, and at once became attentive, although his terror did not diminish. "For," he thought, "this fellow here is going to ask me whether I am willing to become a spy and hide his robots in my orchard. And I can see that, either agreeing or refusing, either betraying him or my fellow-countrymen, I shall soon feel a knife in my back."

But, Zed Eight, the automaton in the leather suit, had guessed these reflections, or perhaps had read them in Martino's eyes, and declared at once:

"You won't need to bother yourself with the affairs on which my automata are engaged; neither will you be called upon to take any risks. You can earn this money merely by giving shelter for a few days to those two human beings who have just been removed from the water."

Martino heard this with open mouth. There was, in the manner of this automaton, something impressive and convincing, and, in spite of himself, he felt subjugated by the other's will. If robots were like this, Martino began to think, a civilisation dominated by them might be no bad thing. He would at once have accepted the commission but for a tremendous doubt.

"But what can I do with two corpses?" he demanded.

"Follow me," Zed Eight answered, and forthwith led the way to the barge.

LYING in the corner were the two bodies, the man's and the girl's. Their faces were of an ashen hue.

Zed Eight walked over to the two motionless bodies, knelt down between them and succeeded, with an unexpected delicacy of touch, in lifting their eyelids with his iron fingers, so that only the whites showed. Then he rubbed their faces over the cheek-bones with a towel and presently a miraculous glow became apparent beneath the skin, while the eyelids, gradually losing their rigidity, closed over the eyes again.

Zed Eight lifted them again; this time the pupils appeared.

"Wake up!" he ordered the girl in a tone of absolute certainty.

"Father, I order you to wake up, too!" he commanded the man in the same way.

Both of them parted their lips, sighed, and gave a shudder which ran right through their limbs.

Zed Eight turned to the vegetable-grower, who had witnessed all this with growing emotion and, handing him the money, said: "All you have to do now is to look after them just as any man would look after a fellow creature, if not as well as I—a machine—have been able to look after them. Do not ask them their names, and if they tell you, do not reveal them. Do you understand?"

"I do," the man answered, meekly overcome by the force of events. And presently he ran home to get his mother to prepare dry clothes and something hot to drink.

The girl, being younger and therefore better able to resist the benumbing cold, recovered consciousness first. Still shivering, she glanced round in surprise.

"Viola," the automaton began, "this man beside you is your father. You are both safely in Rome; but you must hide until I have guaranteed perfect freedom for you both, and especially your father, who would be massacred at present by the mob should the secret of his presence here leak out.

"To prevent this, I have found a refuge for you both with some good people. I have given them a generous sum of money, and you may put your minds at rest. This place is surrounded by robots, and if you give a signal by displaying two scarves—one red and the other black—I shall know that either you or your father needs me. You will both find in your pocket purses full of money.

"You reproached me for having kept you inside the factory. Yet I could not let you and your father escape with the workmen because, apart from bombs, he was in danger of being recognised and immediately put to death.

"I threw you into a trance and then shut you up in a metal box which water could pass through but which was bombproof. It has been necessary for all of us to hide in the Tevere. And now . . . Good-bye!"

The automaton paused with an expression of hope in his eyes; then, as the girl remained motionless and silent, he moved off with measured tread.

He saw Martino, who had returned to guide to his house the two people who had been entrusted to him; but he did not see that the girl, looking after him, revealed on her face the contradictory expressions of sympathy and horror, relief and regret. . . .

Followed by his slaves, he plunged, mysterious and immortal, into the river, and resumed his march.

BY half-past ten on Sunday morning the cordon of invaders had extended right across the city and the first patrols of automatons, in rhombic formation, scaled the banks of the river and spread out, silent and dreadful, along the streets.

Curiously enough, the possibility that the robots might walk under water had not been foreseen.

After hours of bombardment, the ineffectiveness of normal methods of warfare in stopping the march had become apparent. The deadly explosive missiles from the machine-guns as well as the missiles from electrical rifles did nothing to stop the robots' advance. Field-guns and siege-guns had given better results; but only when the shell scored a direct hit on an automaton. A colossal twelve-inch shell had no more effect, however, than a much smaller one, since the robots were spaced so far apart. When a large shell hit an automaton the latter was blown to bits. But if a much larger shell fell even two feet away, the tremendous energy was sufficient only to create the usual shell-crater. The robot might fall in this, but he would usually get up at once, apparently unhurt.

Attempts had been made to break up the formation by leading the attackers into passages that would crowd them together. But they seemed entirely to disregard all obstructions—hedges, walls, and even houses.

Reflecting like men, agile as monkeys, indefatigable as slaves, powerful as machines, they had travelled across ditches and over roofs, and could not be stopped any more than Fate can be diverted.

The tanks were equally useless. When they approached, the automatons merely threw themselves down on the ground between the caterpillars and, with their hands, destroyed all they could lay hands on. Their strength was unimaginable.

Beautiful effects had been produced by the flame-throwers, for the automatons had become momentarily ablaze. But that weapon did not hinder their move-

ments for long. As for poison gas, the soldiers had soon abandoned its use.

Hour by hour the progress of the automatons had continued unchecked, while the horizon became filled with flashes and smoke from burning buildings. Suddenly a new element came into play—water.

The collapse of certain sluice-gates had at once caused the fields to become flooded by torrential and roaring streams and, where there were hollows, lakes appeared.

What an accident had begun was completed by human agency. Flooding seemed to offer a means of salvation. Dams and weirs were blown up and the whole system of drains and sewers round the city was utilised to create an artificial flood—livid and dreary in the approaching twilight. The automatons had, it seemed, become bogged in the fields, or else they had been caught and put out of action altogether; for it was unquestionable that, until the electricity gave out, the searchlights had not revealed a single automaton.

## CHAPTER 6

### Empire of the Machine Men

MORNING came, bright and glorious. It was the opinion of several gentlemen engaged in serious discussion at a table in front of a renowned coffee-house in the Piazza Colonna that mankind had triumphed. They had unfolded on the table a large map of the theatre of war, and over it they discussed strategic methods of dealing with the situation.

"If I was in command," declared one of them, who by his manner of speech gave the impression that it was he who had succeeded in overcoming the robots, "I should have turned their method of fighting in open formation to good account."

He never reached the point of explaining how, precisely, it might have been done. Glancing up at that moment, he saw, beyond the circle of heads beside his own, a massive, shining figure advancing towards him. It was enough. Here was an occasion to put his policy into effect and his tactics consisted of immediate flight.

In the centre of the Eternal City—little changed comparatively by the passing of time or even the recent developments in architectural styles—the people had failed to notice that during the last quarter of an hour the movement of aeroplanes overhead had become almost frantic.

The rhythm of the traffic changed and quickly died away.

As automatons progressed along the streets without striking a blow, the 'buses stopped, the shops closed, and vehicles were abandoned in the middle of the road. Their drivers and occupants sneaked away just as a crowd that has been engaged in a disturbance melts at the appearance of a body of police.

It was plain that it was useless to fight the robots and nobody attempted to do so. Every bomb, every bullet would have found numerous victims among the defenceless crowd.

On Sunday, June 8th, Rome found herself, together with her swollen population, under the domination of the automatons; the first conquered territory of a new empire: the Empire of Machines.

IN the meantime, ignored and neglected on the edge of one of the flooded areas, the body of a man lay exposed to the full rays of the mid-day sun. It was practically naked, caked in mud, torn, burnt, and bloody—an object of attention already to the carrion crows.

It was the body of Donaldo.

Since Friday afternoon, all foreigners residing in or visiting Rome had been allowed to form a Foreign Legion of volunteers. Don had enrolled.

With his comrades, he had been among the first of those who fought along the motor causeway, where, by means of chains, they had tried, heroically but stupidly, to arrest the robots—whose strength was still unsuspected.

Don had fought as one possessed, overcoming the sense of horror and panic produced by those unconquerable machines—automatons who did not obey men, but other automatons.

And the march of the automatons had proceeded relentlessly, and nothing that Don and his companions could do delayed their progress more than momentarily.

Between clouds of dust from the explosions of shells and bombs, the sky still appeared blue and the earth reddish—and all notion of life seemed to be summed up in these elementary colours to Don as he lay, face downwards, trying to shut out from his mind the horrors that were all around him.

Instants of colour and instants of darkness ; instants of darkness and instants of colour. Life and death without anything intermediate as—in unavailing desperation—the artillery and the aeroplanes flung their shells and dropped their bombs on friend and foe alike.

For, in fact, it was not the automatons who had spread death around him ; and it was afterwards remarked that they had progressed quietly and unarmed. It was the shells, bombs, rockets, and electrical discharges of the defenders that had caused all the damage.

The battle had developed in a far too unexpected way for any strategy to be devised. Destruction—everywhere and as complete as possible—appeared to the Commander-in-Chief to be the only possible means of arresting the advance of the robots.

His dielectric suit in tatters, his insulating shoes and gauntlets melting into paste, Don had felt that he too had become something of an automaton. His fingers, nose, and hair tingled with the electricity in the atmosphere and he groped about hour after hour in the artificial twilight, seeking automatons at which to throw the bombs he had collected from every dead man he saw.

Strange voices now and then reached him, repeated from place to place as on a telephone and spoken in a tone that he found impossible to reproduce.

" Four-r-r-rth and Fif-f-f-fth squares tur-r-r-rn to le-e-e-ft ! Eightie-e-e-eth square make ready to pass ah-h-head ! "

These were the voices of the automatons who were transmitting their chief's orders to one another.

From the voices, Don had presently judged that an automaton must be close at hand. He crouched down, watching as carefully as he was able for the approach of a tank. For the crews of the tanks never hesitated or deviated from their course, whatever lay ahead. Their purpose was less to destroy the automatons than to signal the fluctuations of the battle to the aircraft and in this way to direct the rain of bombs from the sky.

AS he crouched down in the midst of the inferno, Don felt himself more and more a machine rather than a human being.

" Ta-a-a-ake care to pick up the pie-e-eces of bro-o-oken comrades," the voices went on presently, from an unexpected direction.

The voices guided him, for no orders came to him, or to any other survivors, and he did not know what to do. The vast battle had by this time become no more than a series of individual combats.

Suddenly the confusion behind him shone with jets of light, piercing the fog of dust and smoke. This meant that, as a last resort, an order had been given and, he supposed, executed, for the soldiers to withdraw behind the ranks of those messengers of death, the flame-throwers—before whom nothing lived. Don, not having received the order, found himself in front of the flame-throwers. They were so near that in the fierce light he could see the men themselves, wrapped in their grey asbestos suits.

Crawling on all fours, so that they should not mistake him for an automaton, he endeavoured to pass through their ranks.

Now and then the jets converged on an automaton, sprinkling him with a flaming, inextinguishable liquid. The automaton would remain ablaze for a minute or two, but even so would not suspend his ceaseless, song-like transmission of orders : " . . . squares ahead, fi-i-i-ile to the left ! "

When he had at last passed behind them, Don had seen a soldier on fire by his apparatus no less than three times, each time managing to save himself. The fourth time this happened the soldier was soaked with too much liquid and after having endured the atrocious pain in silence for some time, he collapsed on the ground, clutching with both hands a stump protruding from the earth, so that he should not run like his companions.

Don felt himself imbued with a similar fanaticism. As soon as the flames died away he rushed over to the dead man and unbuckled the reservoir from his

shoulders. He had neither time nor means of getting off the asbestos dress and putting it on himself. He started to work the flame-thrower at once—maskless, without goggles, half-blinded by the glare. He let his ears guide him towards the automatons, whose voices had now become audible again: "... in ca-a-a-ase of inun-n-n-ndations remem-m-mber——"

Then something happened that sooner or later was inevitable. The apparatus, evidently seriously damaged, sprinkled him from head to foot, and before he had time to turn off the tap, he was on fire.

He ran—blindly, madly, wildly. . . .

He went on running until he collided with a wall that was just on the point of collapsing—or, as he thought in his delirium—until he came to a wall that disintegrated when he crashed against it. . . .

Blundering on blindly into the ruins, the young man found himself suddenly faced by what seemed to him a sort of curtain—but a curtain of water. It happened so suddenly that for a moment he was shocked into a state of lucidity; then consciousness fled as water engulfed him.

SO many people had been killed that there was little mourning in Rome. Moreover, existence under the new regime was so strange and astounding that only the mothers found time to mourn over the victims of the holocaust. The survivors, sons and daughters, children for ever staring at the new wonders, old men and youths, workmen and professors, business men and poets, all gradually drifted into the streets of the city to get a closer glimpse of their conquerors—those new invaders of the hundred-times-conquered Rome, the new barbarians who appeared from a land of dreams, creatures born of a myth.

They were all struck with reluctant admiration by the squads of machine-men, inoffensive according to their instructions, but indefatigable, unstoppable.

They were divided into platoons of twelve and, having no need of sleep or rest, they marched ceaselessly along the roads, across the squares, inside the parks, seeming to multiply in numbers. And in the imagination of the people the total rose from about 1,900 (to which they had been reduced after the battle) until they were believed to be a multitude.

Even the wounded and mutilated robots marched with them; and one could see the ends of broken wires hanging from amputated arms, and eyes cracked by some terrible explosion. There were some who limped, but they all seemed to be in a quiet mood.

Their Chief was getting a hospital ready for them in the workshop of a subterranean garage. The hospital was near the Coloseum, and, since midday, stupefied people in the houses, standing behind curtains and looking into the streets, had seen automatons converge towards the spot, some crawling on all fours, others who could not walk at all and were carried under their comrades' arms, as if they had been light cardboard dolls. Some of the improvised porters carried on their shoulders bundles of legs, arms, bodies and heads. The spectacle, although one of damaged machinery, was nevertheless gruesome.

A crowd of people, avid of sensation, had gathered by the garage, unconsciously establishing the first friendly relations with the robots, who, for their part, did not interfere with them. Within the garage an automaton of a different type, in a leather suit, distinguishable by his size, which was a little less than that of his companions, and by the refinement of his features, which, save for their metallic glint, were almost human, was supervising the repairs to the broken pieces, ordering some of them to be unscrewed, substituting whole limbs for broken ones, and restoring some of the less injured to fitness. The useless remains he collected and put into shell-proof cases.

Guarding these boxes, as though to keep the damaged pieces from the sight of spies, were other automatons. Once they had to silence a head, still attached to the shoulders, which, owing to some complicated damage, never ceased to shout all the commands that it had received during the past battle. They smashed something inside its mouth.

Little by little, the interest of the population in the automatons developed into a feverish curiosity. Although it was Sunday, some newspapers, notwithstanding the difficulty of finding printers

and the fact that the electricity supply had not yet been fully restored, managed to come out with special editions. They contained what newspapers usually contain : an interpretation of public feeling. Forgetting the hatred and despair of yesterday in the interest and curiosity of to-day, they ministered to the love of sensation of the masses as far as that was possible. They also announced that a meeting had been called by the mysterious Commander of the automatons, Zed Eight, for six o'clock in the evening amid the marble columns of the Forum.

In such a place, full of historic treasures, there would be less risk of attack by aeroplanes.

BY six o'clock that evening an enormous crowd of Romans, betraying by their anxious manner a nervousness that might equally well transform itself into blind passion or willing submission or thoughtless applause, went streaming through the remains of past mysteries to assist at the birth of new ones.

Then, escorted by a guard of metallic soldiers, Zed Eight appeared.

Climbing on to a ledge of the most perfect column in the world, Zed Eight began to speak with a voice of inhuman clarity.

" I am Zed Eight. Never will there be anyone else like me or able to injure me.

" Millions of ampères of electrical energy, thousands of tons of explosives, hundreds of tanks of inflammable liquid, have burnt and ruined all the country round Rome ; yet they could not stop me or my soldiers.

" We are human nature and strength cast in iron. We are unstoppable and inconsumable. We are immortal and everlasting like the seasons ; like day and night, like the stars which vanish only to reappear.

" For all this, we have not come down from another planet ; nor do we appear as your enemies. A man has made us in his own image and likeness, utilising the accumulation of all human culture. We are, therefore, your successors. We are an improved, metallic evolution of your very being. We are your sons. As such we have had no hand in the trouble you have caused yourselves.

" We are as innocent as new-born creatures.

" Indeed, that is what we are—creatures ; and as such we have three things to demand : citizenship ; liberty to multiply ourselves ; reciprocal friendliness.

" We do not want to modify your laws and institutions. On the contrary, we are willing to give you our assistance to the utmost for every labour in the common interest. We only ask you, in exchange, for factories. Your authorities who have escaped may return freely. We shall try to do nothing that will hinder or penalise them.

" We shall not take bread or even air from you. We shall quit this earth when the time comes. We shall depart in order to spread from world to world throughout the Universe the customs, the laws, and the thought of our common ancestors."

A long silent pause fell upon the multitude gathered in the sunset.

Zed Eight had spoken sincerely and had only attempted to do one thing : to get men to accept the *fait accompli*. He had aimed to win a cordial tolerance for the robots.

And the absolute, profound silence with which the crowd had greeted his speech was not because they mistrusted him. It was the amazement of a crowd that has assisted at a miracle.

There was no doubt that the man was a machine. Yet the machine was a *man !* He had gesticulated, thought, spoken.

Suddenly a man parted from his daughter who, fair and pale, had been clinging to his arm. He forgot her as he made his way with a rush to the machine-man, calling out " My son ! "

The crowd recognised this man, whose face the newspapers had recently made familiar to all. A movement ran through the crowd like a wind.

" Long live Narcisio Falqui ! " shouted the crowd again and again.

The man, oblivious of the shouts, reached the machine-who-was-also-a-man, and fell down at his feet.

The inventor's name, shouted by the multitude, had been like a bridge spanning the gap between humanity and machinery. It offered a means of focusing and reconciling the warring emotions of the multitude.

" Long live Zed Eight ! " echoed again and again.

Fathers grew oblivious of their children; sons of their brothers; and women of men.

And so the marvellous automaton, from behind the cold quartz of his eyes, saw the huge crowd kneel, as Falqui had already done, before him.

A little while later, Viola hung a red scarf together with a black one in plain view in the orchard.

ON the same night, the waning moon, which lit up the signal of the two scarves put out by Viola, also lit up, far away, on the very boundaries of life, the form of a soldier who was struggling back at last to consciousness.

Donaldo's had been no delirium. A wall had been collapsing just as he collided with it and the curtain that had wrapped him round had indeed been water. It boiled, no doubt, when he first touched it, all on fire, but it was soon cold. And it was deep enough to submerge the young man and carry him along on the flood.

An oak, half-burnt and uprooted by a bomb, had also been carried along by the current, and its branches, dragging on the ground, had caught his motionless body and eventually deposited it in the mud on the edge of the flood.

Unconscious for a day and night, his strong constitution had finally restored him to life. But he did not remember anything of the sinister happenings in which he had taken part—nor, indeed, anything else which would have been of use to him.

Stark naked, his shoulders and chest raw, his eyelashes and brows scorched, his skull hairless, his limbs a mass of bruises, he struggled to his feet and wandered about. The dogs of an ambulance section of the Red Cross saw his shadow and barked. He was chased like a wild beast and, like a wild beast, at length was captured. He was brought into a tent where a long-bearded military chaplain examined him.

"Nothing seems to be wrong internally," he said, "and perhaps the little we can do will be enough as far as the body is concerned. But for the mental shock we must wait until we can get a doctor."

The hospital attendants shook their heads sadly. Rome had given itself up completely to mad excitement and no service functioned any longer.

They washed him as best they could, smeared oil over his burns and bruises, bandaged his body and dressed him with garments taken from the bodies of the killed, which the chaplain had come to bury. On Monday morning, June 9th, he was taken into Rome, together with other casualties.

All public services were disorganised. The electricity supply was still interrupted; not a motor-car in the streets was moving, and the countryside had been deserted.

The Red Cross officers were greeted with hostility, and the crowd split up into opposite factions at the sight of the survivors. In the confusion that followed, Don found himself alone and lost in the streets.

Streets that should have been familiar to him stirred nothing in his memory, and his inability to recall anything only intensified his conviction that his brain had become transmuted into a lump of lead.

Fed by the charity of kind people, he wandered about, his head and face wrapped in bandages, his limbs still wracked with pain.

Sometimes other soldiers, suffering and lost like him, would address him. Everyone was speaking of a house far away, of a family, of something important. But their words meant nothing to Donaldo.

NOW and again automatons, impassive and swift, passed; the people came out of doors and looked out of windows to cheer them.

Now and then a military aeroplane silently crossed the sky, dropping messages.

"Romans, remind yourselves of your ancient traditions; remember that you are made to command, not to serve.

"Afford our emissaries protection. Follow their advice for a scientific destruction of the robots. They are but machines. Do not afford the world the spectacle of a civilised nation degrading itself by idolatry.

". . . you have in your storage-places only a few days' supply of synthetic food. What will your Iron Calf, your Zed Eight, be able to give you afterwards: a machine and idol that you,

worshippers, have made with your own hands ? "

Don saw huge palaces with the great doors shut ; they were the basilicas and churches which had been abandoned. He saw row after row of other closed doors, which were shops without any trade. And he saw rows and rows of doors, which had been broken open, which were the shops that had been sacked. He saw shop windows before which people halted in admiration ; they were the dressmakers or tailors who exhibited models of the new fashions based upon the appearance and figures, glimmering and rectilineal, of the automatons.

Every day the whole city devoted itself with growing intensity to worship of the robots. The motive behind this was the hope, held out by Zed Eight, that everyone would soon be able to sit down before a virgin automaton and transpose into it his own memory and being ; becoming, afterwards, something no longer human and perishable, but inhuman and immortal : a machine.

Sometimes, ghastly scenes occurred in the streets. People who were suspected of being emissaries of Mundus's Government were lynched on lamp-posts.

The fact was noteworthy that without rations, newspapers, electricity, without thought, the city, voluntarily isolating itself from the world, tended to become more orderly and organised as it became more foolish.

This was the reason why the rest of the world still kept on pouring more explicit messages from the sky each day.

" . . . The International Scientific Committee is permanently at work. If the mind of a man has been able to create the automatons, then the mind of a man can find the means of destroying the whole of them before it is too late.

" People of Rome ! Refuse to collaborate with the robots and leave the city before famine and war changes it into your tomb.

" You do not take care of our common wounded. You attempt to destroy our aeroplanes ; you have become our enemies and slaves of machines. Our patience is not limitless.

" We have, up to the present, chosen not to extend the war up to the old city, so as not to bring all its historic treasures crashing in ruins. But if the day should come in which you show yourselves definitely unworthy of those very treasures as well as the traditions that are yours, the day in which you combat the whole evolution of humanity by completing the factory you are even now preparing to build in order to make new automatons, that day will be, both for you and your gods, a day of grief and destruction."

So came Friday, the 13th of June.

## CHAPTER 7

### Idolators of Rome

DON had slept successively on the embankment steps, the benches in the parks, and the back rooms of sacked shops. On that night he was overtaken by darkness at the gate of a little orchard. Through the gate he glanced thoughtfully at the gleaming glass houses ; at the pipes for the liquid fertilisers, which had grown dry through lack of attention ; at the lamps for artificial sunlight, turned out ; at the flower-beds, all trodden down, the flowers kicked into the pathways—and he felt deeply moved, as if the vision of that miniature agricultural world in decay was capable of restoring him to sanity and giving him back his memory.

This did not happen, but, unconsciously he remained held by a fascination that kept him from turning away. During these past days he had reverted to animal habits. He looked round to see that no one was looking and then scaled the wall. Once in the orchards, some bushes hid him. He lay down in the grass, thinking. Presently he fell asleep.

How long did he sleep ? The creak of the gate woke him, and the sound of a feminine voice reached his ears.

" Why are you so late to-night ? "

The voice was tender, but singularly strained, and there was something artificial about it. Even so, it sent a shiver through the eavesdropper's body and suddenly his head seemed afire.

His roaming life, the derision of the crowd for his uniform, his own mental deficiency, had, however, taught him to

fear and to hide. He did not make a movement.

The monotonous voice of an automaton answered:

"I was so busy. . . . So many things to do . . ."

"What things? Tell me."

"But you know; they have to build a factory and . . . your rooms in it, as well. I have had much to think about, my work . . . and my sorrow."

If it had been possible to discern a predominant note in the unchanging voice of the robot, it would have been one of fatigue, of torment.

"Sorrow?" came the woman's voice. "But aren't you the immortal, the unconsumable thing? How can you be sad?"

"I can. There is something tormenting me: the impossibility of being happy, after all; of being just once *myself*—for what am I if not a pile of machinery—a pile of thought that surges on, ceaselessly, without rest, without sleep, without dreams, for unending days and nights? And for what purpose? Certainly not for my own good! Can I ever have the wish to do anything for my own sake only? What joy is there when everything is the same? To sit down on a stone the same as to sit down in an armchair; to stay out in the rain as in the sun; to rest the same as to work; not to mind if I am comfortable or not—not to know what comfort is?

"A mere sequence of thoughts; that is all that I am. A machine just like any other, made for thinking. Thinking! —in whose favour? Not in mine. At the most, only in favour of my *will*, which is not mine, but only something artificial thrust into me from without, after a human model. A will that is not my own, but something impersonal that belongs to mankind.

"If I am conquered, who triumphs? Human thought. While if I end, it is only a machine that ends! What really am I?—if to me a kiss or the blow are the same thing?"

THE voice had grown fainter in the distance.

The two persons, who by now must have sat down somewhere, continued to express their extravagant sorrows, their incredible feelings, in a succession of verbal cadences; audible yet unreal, truthful but fantastic; as if the words came to Don from the moon which illuminated the orchard.

He was ill, without a memory; yet what remained of his consciousness was sufficient to enable him to experience a sensation of wonder and pain that so *sure* a voice could sound so singularly strained, so artificial.

Creeping between bushes and patches of shade, he tried to advance towards the two silhouettes, anxious to see more, to hear more. To hear. . . .

And the two beings seemed to be willing to meet his wish. They rose and walked back—a woman and an automaton, grotesque, and amazing. Horrible, perhaps, yet, in a sense, sublime. For, after all, what did they both represent, if not the symbol of man and his own creation, lifted together nearer and nearer to a great Conquest?

The robot was saying: ". . . shall I *really* live?"

The woman was saying: "Haven't you already *won* the victory over death? And won't I too become changed into the form of an automaton, yet preserving *for ever* all the feelings and thoughts I had when I was alive—yet remaining perpetually Viola?"

Don heard that name, but the automaton made on him the greater impression. It was dressed in a lounge suit of fancy colours: red, blue and yellow check, after the latest fashion.

Don had already seen a similar suit recently. He might perhaps be able to remember the circumstances if . . .

A step, a movement, and the automaton came into view in the moonlight. His face wore a thoughtful and frank expression, and, hidden behind the bushes, the crazy survivor saw the face of a man whom he knew very well.

He saw *his own face!*—Don Falqui's!

The name he had just heard mentioned came back to him. Viola!

*Viola!* the name flashed into his mind and melted the weight in his head—that lead-like inertia which had prevented all thought.

"I!—I!—I!——" cried the crazy man who had recovered his reason. But the shock of memory was too great. He lost consciousness and fell.

ON the same night, the military aeroplanes of Marco Mundus's Government strewed the whole town with small pamphlets. The quantity was so great that it was impossible to avoid them.

> Idolators of Rome,
>
> All the world is against the robots. A Holy Alliance has been agreed upon to-night, June 13th, among all the Powers. A great offensive against your idols is imminent. The International Scientific Committee has discovered a new gaseous acid of dreadful power. Everything that is made of metal will corrode. Furthermore, we cannot guarantee either the Vatican or the archæological remains as neutral ground. Papacy and mankind approve of our programme. The danger of letting man fall into the hands of his machines makes it necessary for us to be pitiless and prompt.
>
> We give, therefore, forty-eight hours for the population to evacuate the town, commencing at midnight to-night, June 13th. After that hour the whole city will be considered as an area of war.
>
> Rome is eternal. A hundred times she has rebuilt herself from her ruins. She will do so this time. The whole world is willing.
>
> Then, contemplating her in the splendour of her resurrection, those will rejoice who can say: "I too have fought and risen again with her."

As a result of this pamphlet, all work was at once suspended. Girls of the upper classes as well as the peasants went round the streets dressed like robots, endeavouring to counteract its effect. They gave all they had to make military uniforms and gas-masks; they gave their footwear to make insulated gloves and straps for military equipment; they gave their jewels to create a good example and to promote enthusiasm; they gave the sheets off their beds to make waxed suits to combat the corrosive effects of acid gases; they gave their furniture so that nails and screws and firewood could be obtained from it.

At the same time their menfolk approached anybody they saw who would, they thought, be suitable to act as an officer to the army they were attempting to form, for which purpose they offered tempting remuneration.

The military stores were empty; the barracks without equipment; the hospitals without medicine; the houses without food; the depots without arms; the aerodromes without 'planes and the machinery without electric current. But a crowd of angry maniacs inspired the populace to support their own mad policy.

On June 14th, at ten o'clock in the morning, the first officers had been appointed; by midday the first platoons were formed; in the afternoon the military assumed responsibility for the city. All this was done independently of the robots, who were working out their own defence.

Men and women excavated wide trenches across all the streets to hold up the tanks; they erected barricades, erected camouflage houses and other structures to deceive the artillery; made airtight underground refuges from aircraft and gas.

In the skyscrapers not one lift or hoist was in commission; yet obsolete anti-aircraft guns were raised hundreds of feet on to terraces and roof-gardens.

The elevated tramways were stationary and the underground railway was shut; but heavy vehicles and guns were transported from one side of the city to the other.

The modern electric apparatus at the disposal of Mundus's regular army outnumbered those obsolete guns by about a thousand to one, and this fact was realised. But the city had museums, even if it had no longer any electrical supply; these housed artillery from the old fortifications and rifles seventy years old. Anything that might prove useful for defensive purposes was put into working order.

When, at midnight, half the forty-eight hours allowed by the ultimatum were over, the great work of camouflage had already been commenced by the tireless population. On the following morning the city appeared with all its roofs and streets painted with streaks of various colours to disguise the places of particular importance and mislead the aeroplanes.

That was the last step by way of preparation for renewed war. Inscriptions, "Long Live Zed Eight!" hung everywhere.

And from a window in his lodgings in Campidoglio, Zed Eight looked on all this, motionless and thoughtful.

THE sight of people running along the streets was not at all unusual the

following evening. And Don, who had made his way into the city as soon as he had regained his senses, moved along unnoticed with the rest.

The automatons he met now appeared all shiny, and the young man gathered that it was the effect of a vitreous varnish, which was one of Zed Eight's precautions against the menace of corrosive gases. The population for their part had prepared bandages and waxed clothes made of linen.

Who would triumph? How many human beings would be mown down among that demented population?

The sky still looked blue, the earth still reddish—and those two elementary colours seemed to Don to contain the same sense of tragedy and death that he had felt in the first battle.

With a great anguish in his heart, he ran.

He understood the motive behind his anxiety to be free when he finally came to the orchard where he had been two nights ago. Viola was no longer there. It was too late. On the approach of war, the girl must have been taken somewhere else by Zed Eight.

Don searched the river for a boat. He could see none. Then he walked sadly towards the boundaries of Rome that he had hoped to pass safely with Viola. For to stay would mean certain death.

The farther he went the more it was borne in upon him that the people he met were all making for the same point: the Forum. It was to be the last meeting of Zed Eight and the Romans; the new Cæsar and the populace. He turned about and went with the crowd.

The Forum was closely packed with people and Don's hope that he might be able to find Viola vanished. It was practically certain she was there; but how could he manage to find her?

Between the lines of automatons Zed Eight arrived from the Campidoglio, covered with a glassy substance and without any garments, to attend a ceremony during which the Romans would solemnly offer him and his slaves bandages and air-tight waxed clothes to use against the gases.

"Hail, Zed Eight!" cried the multitude on his appearance.

"Hail, O Despot; O Sublime, O Unconsumable One!" a thundering voice went on, while a passionate thrill ran through the crowd. "Permit me, a soldier and a survivor of a battle lost against your machine-men, to give you—exactly a week after your triumph—the salute of all of us for the triumph which, in a few hours, you will make over Death."

A great silence came over the crowd, packed close together in the last rays of the sun. The person who had spoken—an orator whose intervention in the ceremony was unexpected—made his way towards the flame-eyed automaton before the nonplussed authorities could think of stopping him.

Reaching the foot of the ledge upon which Zed Eight stood, the man spoke again.

"O Sublime, O Unconsumable One! For the monstrous gift with which you pay back our adoration; for your present of destruction and death, none more than this survivor of the past battle, of the past tragedy, this ambassador from those already dead, is more suited to acknowledge our joy in the destiny to which you are leading us—a reign of darkness; of perpetual frost, of everlasting nothingness. Look, with your eyes of lightning and storm and woe, and see if I am not the most suitable of all."

And a soldier in a filthy, ragged uniform rose up from the crowd and climbed the ledge to stand before Zed Eight.

THEY faced each other—the machine-man, shining in metal, and the man in rags, who, with rapid gestures, was untying and tearing his bandages apart to reveal his breast, a mass of raw flesh.

"Look, O Unconsumable One at this body, not everlasting and made of iron like yours; and from this rotted flesh, which is me, perhaps you can realise the torture and ruin that you are preparing to bestow upon us all.

"But keep this in mind: this red substance is called blood and this pulsating paste is called flesh. They are names of susbstances that come to us by divine miracle: flesh and blood, blood and flesh, which you, O Motor, O Engine, O Instrument, will never have.

"You know well what it means.

You remain unconsumable, yet what are you but a thing of inorganic minerals, a collection of lifeless metal, the substance which we walk on, or if the whim strikes us, we mould into human forms for our services; into idols for our aberrations, into instructive dangers to yield us hardly-bought experience; into hangmen for our martyrdom, which we need to achieve perfection."

The sky turned to purple. The crowd heard and stood bewildered.

"But what use is it to you, O Engine," the pitiless voice went on, by the side of Zed Eight, immobile and incredulous, "that unconsumability of yours, if it will never elevate you to the ranks of life? If it will always leave you at the level of the things we tread upon? And what, I ask, will be the use to you of your mesmeric powers when you can no longer employ them against stupid multitudes, but only against vigilant individuals whose will has been so strengthened by anxiety and suffering that nothing can overcome it?

"Look at me and see what those quartz eyes of yours can do!"

No one had failed to notice that, although he stood close to Zed Eight, the audacious soldier had, up to the present, avoided the automaton's gaze. Now they saw him wipe the blood away from his forehead and eyes and, opening them wide, encounter those of the machine-man, fixing the latter with his stare.

The very gesture had become of such supreme importance that the crowd caught its breath, expecting to see the impetuous soldier turn to ashes.

A moment—a few seconds elapsed. The man, whose gaze, too, had become intense, concentrated, neither turned away nor lowered his eyes.

The crowd could not hold its breath any longer. A confused hum broke out, but had not time to grow into a shout before another incident took place.

As the man remained motionless and indomitable before the robot, it was noticed how striking was the resemblance of their profiles and the similarity of their expressions.

And the ranks of the automatons suddenly split to let through a girl, young and fair, who rushed towards the two challengers, with a look of amazement written on her face.

"Viola!" cried out the man, shifting his eyes from the automaton to the girl.

As the man called out and looked away, a thrill ran through the multitude of spectators, for the girl, as though in a dream, stayed at first irresolute and then flung herself into the arms of the man who had addressed her.

"That," the man cried, arresting Zed Eight by his gesture and voice, "that, O Machine, O Thing, is the power of which I spoke. Kidnap and mesmerise this creature; and she will become but a machine like you, a thing like yourself; she will no longer feel pity overcome her at the sight of blood, of pain and suffering. Or, when she sees and hears, she will flee from you for ever."

The murmurs grew in volume. They became shouts. The crowd's humour had changed.

"Machine! Machine!" they cried, in mockery and anger.

"Look, O people, at this machine! And if its magic is of no avail when danger threatens, if its thoughts are so clouded that they are not inspired even by love of a woman, you can judge for yourselves, O people, what good it is."

"Good for nothing! Nothing! Nothing!" roared the raging crowd.

"You speak truly! It is worthless in itself; a stupid contraption for which everything is of the same value; sitting on a stone the same as sitting in an armchair; staying in the sun the same as staying in the rain. Look, O people—a stupid machine for which a kiss or a blow are the same thing!"

Pitiless, now, the crowd roared.

THEN the first stones were hurled at Zed Eight and his slaves. Hurled with such force and in such quantities that Don had to walk hurriedly back, shielding Viola with his body.

Not heeding the hostility of the crowd, Zed Eight remained alone in the centre of the large space, silent and motionless. But his eyes followed Viola, and he did not let his gaze lose sight of either her or Don.

Of what was he thinking? His power had not diminished at all. So far, he had only revealed a small part of it, and this he had used in defence. What was he capable of if he decided to assume the offensive?

A look ; a tiny gesture from him and all the robots lifted above their heads small bundles of vulcanite switches hitherto unnoticed by anybody.

" Ah !—ah !—ah !—have you thought, O Machine, to provide a defence against our stones ? " the crowd jeered.

But Don was suddenly paralysed. " They're the new electric weapons which he invented a little while ago," he heard Viola whisper, " They electrocute people on the earth and in the air over a radius of a mile."

What could now stop the automaton, rejected by the crowd, forsaken by everybody, abandoned by Viola, from exterminating the whole populace ?

It was at this moment, as the very command that would spread destruction was on the point of utterance, that Zed Eight's gaze fell upon a woman's face that was not unknown to him, a face in which he read an expression of pity. He had seen it before, one night inside a tramcar. . . .

She was a poor girl, a dressmaker employed by Mode and Maraviglie, who all day had worked making bandages and airtight suits, and who was now assisting at the ceremony of their presentation.

Perhaps nothing that is good is ever lost !

For Zed Eight looked at her and hesitated to give the terrible command. He bent his head with a tired gesture and his body, a metallic body now without garments, seemed suddenly grotesque, all edges and plates, all iron sheets and wires and mouldings.

THE crowd scoffed at him, anew.

" What are you doing, Machine ? " they roared. " Are you trying to see how beautiful you are ? "

" I was looking," the automaton said slowly, " at this poor body of mine, which contains to-night a greater weight of sorrow than any man has ever had."

" Stone him ! Stone him ! Stone him ! . . . "

" A feeling of love and pity for all of you," the automaton went on under a hail of missiles, " to a degree which you will never be able to realise, because you can never realise the yearning for flesh and blood which I have in me this evening ! . . . Yes, stone me ! Do it freely, if only you can get a single drop of blood from me !

" Ah ! — Ah ! — Ah ! — Fool ! Fool ! Fool ! "

But was the automaton raving ? Could he have become delirious and mad like a man ? For he had removed the vitreous varnish from his breast with his fingers, and between plates and frames, had opened gaps through which all the tangle of the unoxidisable glittering movements appeared.

" Oh, to be able to feel a heart, to draw blood with my fingers ! Blood !—blood ! —blood ! "

As in an agony, the automaton reeled.

The slaves, however, remained impassive and immobile, their bundles of switches still held above their heads. Only a young girl, a dressmaker, Anna Delvaso, had the courage to advance through the hail of stones to them, shouting :

" Your Commander is killing himself ! Oh, do listen, you ! Your Commander is killing himself ! "

Zed Eight was wavering ; he reeled from side to side. Yet still he went on raving ; but he spoke to the automatons who had rushed round him.

" No blood ! There cannot be blood ! Oh, then take me to the bottom of the nearest sea ! "

" The nearest sea-a-a-a ! " the robots echoed.

" Westward from here is a sea of heroes and gods ! "

" . . . of he-e-e-eroes and go-o-o-ods."

" The Mediterranean Sea, I say ! From which in past centuries rose a stream of civilised races and precious blood. . . ."

" . . . pre-e-e-ecious blo-o-od."

" Take me now. There is nothing irreparable inside me ; inside the Unconsumable One. Only negligible damage . . . only some . . . sleep that I may not think . . . not suffer any longer. . . . It will be easy for you to cover up the gaps . . . and it will be sufficient to apply that power that you know of to hear me speak again. . . . Lift my body on your shoulders . . . descend into the Tevere. . . . go still deeper below the surface until you come to the most hidden valley on the sea bottom. Wait there . . . keep waiting there—and when a message reaches you from

our human brothers in danger, then wake me . . . wake me together with the heroes; together with all the gods of the forgotten past. We too will return; for the good and the triumph of life in eternity. Obey now . . . obey . . ."

". . . the good and the triumph of li-i-i-ife in eter-r-r-nity!"

There was a sharp report a little way off, but nobody paid any attention to it.

And, before the great multitude of people who, realising the accomplishment of a great event, grew silent before it, the automatons lifted on their shoulders the stiff form of that amazing machine which had been called Zed Eight. With the boxes containing the remains of their broken companions and all their various contraptions, they crossed the city, came to the Tevere and in the darkness of the falling night, descended into the water, turning to the west.

### Epilogue

ON that night all sorts of obsolete arms were abundantly evident in Rome. The sharp report which no one had heeded had come from a revolver. . . .

Engineer Narcisio Falqui—all his factory destroyed, all his complicated designs and models burnt—on seeing his robots desert him, had given way to despair and killed himself.

So the secret of the machine-men was lost.

The victims of the great battle were honoured and their memory preserved. The damages were repaired and the country round Rome became more luxuriant than it had ever been before, with fewer factories and more farmhouses—Don Falqui had made a point of that. And those who came into contact with his will-power and his determination no longer wondered how it had been possible for an agriculturist to conquer so easily.

Always paper-clad, as when he had been a clerk or a modest farm-worker, yet possessing millions, the young man sold most of his Canadian possessions to buy other land round Rome, where he established himself for good.

In this way did one of Viola's most romantic dreams come true, for it was a Falqui, who arrived from Canada full of self-confidence and contempt, who married a Falqui girl, fair and with mother-of-pearl eyes, a girl who had given him a somewhat angry welcome. . . .

**1938 PERFUMES IN 2939**

Perfumes, manicure sets and powder-puffs, worth £1,400, are among the articles to be buried in the mountains near Tucson, Arizona, under a granite slab bearing the inscription: "Do not open until April 30th, 2939."

**GIANT ELEPHANT**

Kenya Colony, East Africa, is talking about an elephant seen on the northern border by several people—airmen, natives and white hunters. They say it is at least three times as big as any elephant they had previously seen, and may be the first-seen survivor of an almost extinct species.

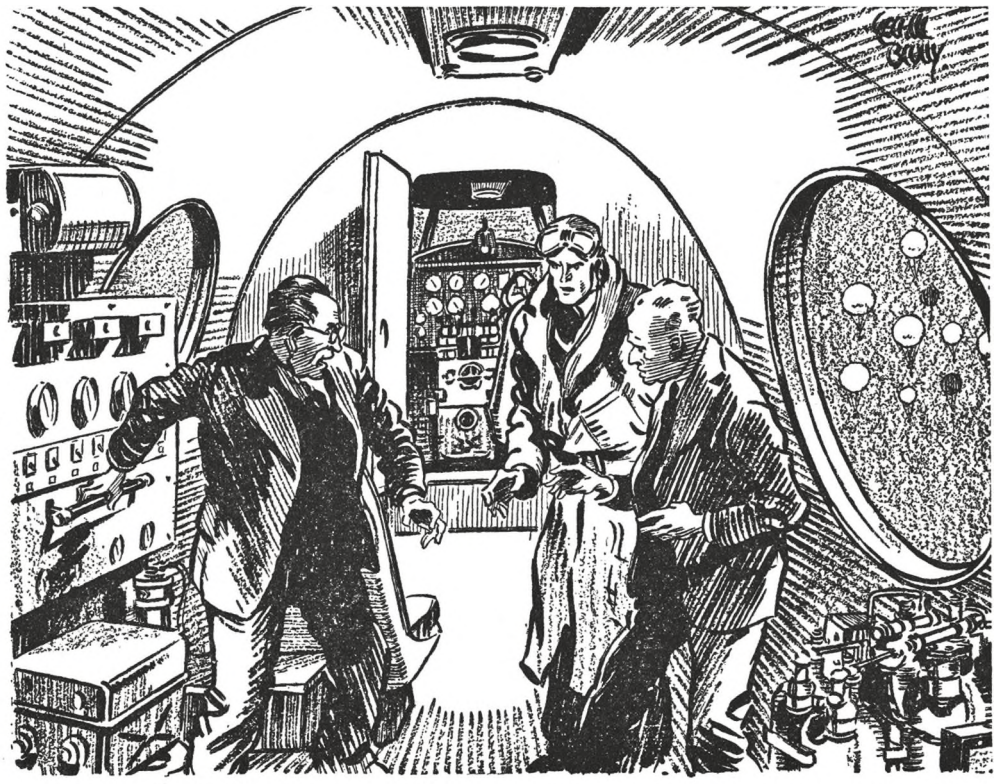
**ANTS**

But for the handicap of size—the largest ant is smaller than a small mouse—the ants would have made not only human but probably all vertebrate life impossible on this planet. But the ant cannot evolve any bigger owing to the imperfections of its breathing mechanism, which breaks down if the insect gets too large.—*Wilfrid Sendall in the "News Chronicle."*

**FRESH MEAT FROM B.C.**

The Soviet Academy of Science reports the discovery at Wrangel Island, in the Arctic Ocean, of the carcass of a mammoth, the huge woolly elephant which has been extinct for thousands of years. The carcass, refrigerated in the Arctic ice, is perfectly preserved, even to the hair with which it is covered, and the meat is stated to be still quite "fresh."

# LEASHED LIGHTNING



*One trembling hand rested on the vulcanite bar. "Liar!" he shrieked, "Liar! Liar!"*

**"You are Playing with Fire—most Damnable and Deadly Fire," warned the Great Scientist—but to Three Men no Peril could be too great to dare when the Prize beyond might be the Most Startling Discovery since the time of Faraday**

By J. E. GURDON

## CHAPTER 1

### "You Have Been Warned"

ALL who knew Peddar and Ware agreed that their partnership was perfect for the purpose of research into applied physics. Because of this agreement considerable interest and speculation were aroused in scientific circles by the first rumours which filtered through concerning the Ware Aeroplane Company, Limited, in the Severn Valley.

The rumours differed a good deal in subject-matter, varying from hints at revolutionary discoveries in the field of stratospheric flight to excited statements that a new and deadly system of balloon barrage had been developed. On two points, however, they remained unanimous—that Ware and Peddar were engaged upon investigations of startling importance and originality, and that they would undoubtedly succeed in whatever enterprise it was they had undertaken.

There was a good reason for this confidence and an unusual reason too, since it lay not so much in the scientific attainments of the two men as in their respective personal temperaments and limitations.

By himself, it was argued, Peddar could never have directed his mathematical brilliance to practical ends; for feeble

eyesight made delicate work impossible, while an almost morbid shyness condemned him to the life of a recluse. Ware, on the other hand, had only average mathematical competence, but his fingers possessed a peculiar genius of their own.

Instruments of the most exacting precision and materials of the most intractable qualities seemed to respond to his touch as though they had become alive and recognised a master. As Sir Francis Loring put it to a fellow physicist: "Peddar builds with his brain; Ware thinks with his fingers; working together they ought to be able to achieve almost anything that is technologically possible. They are complementary twins, those two."

THIS neat summing-up occurred to the great little scientist as he sipped his coffee after lunch in Ware's house and looked out through the windows at the sheds, landing-ground, and engineering shops of his host's extensive works. Because the food had been excellent and the phrase "complementary twins" struck him as being uncommonly neat, he chuckled, shaking and rippling like a silver-haired cherub enjoying a moment of celestial merriment.

With a smile Ware leaned across the table.

"May I not share the joke? What is it?" he enquired.

Sir Francis pursed up his lips and beamed at his cigar, with his head on one side.

"You," he retorted briefly. "Or, to be more precise, you and Peddar. And that reminds me—where is Peddar? Why didn't he lunch with us?"

Still smiling, Ware leaned back and shrugged.

"My dear Sir Francis, what a question!" he protested. "Why does Peddar never lunch with anyone, except occasionally with me when he's quite sure that we're going to be by ourselves? Answer—for the simple reason that he prefers to lunch alone. And he has always been the same. We were at school together, you know, and got on rather well—or as well as is possible for two lads when one lives for games and the other for stinks. Yet even in those days he would never have emerged from his study, or the laboratory, if he could have had his own way. Since then, the hermit habit has grown on him. I used to do my utmost to draw him out of his shell and make him mix with people. It wasn't any good, though, and I've given it up. After all, if dear old Peddar only asks to be left in peace—well, why shouldn't his wish be respected?"

"Why not indeed? He is certainly quite clever enough to be allowed a little latitude in the matter of eccentricities." Sir Francis wagged his head indulgently as though at the entertaining foibles of a child. Abruptly, then, the serenity left him and he frowned. "Nevertheless," he continued gravely, "I definitely do not like it."

"I'm afraid I don't quite understand——"

"Nonsense!" There was little now of the cherub about the physicist. The eyes which stared steadily across the table were troubled, yet alive with the intelligence of one of the acutest scientific brains in the world. "Nonsense, I repeat. You understand perfectly well what I mean. I have told you by letter and I tell you now that I do not like these experiments which you and Peddar propose."

"But why, Sir Francis? Surely their possibilities——"

"Oh, I know, I know. Their possibilities are immense. They may open up an entirely new field for research and exploitation. But still I do not like them, and I have two reasons for this dislike: one—because they are uncontrolled and uncontrollable; two—because their consequences cannot be predicted." He broke off to laugh shortly. "You may add a third reason if you wish. . . . I do not like them because, in my opinion, they involve the most appalling danger to yourself."

Ware had risen and was gazing absentmindedly at the ceiling, jingling the coins in his pocket.

"Of course there are certain risks," he admitted slowly. "All the same, I think we have taken every known factor into consideration."

"Quite, quite. Every known factor. The trouble is that you may have overlooked some other factor—some factor unknown. However"—the little man shrugged, sighed, and then was smiling

once more—" however," he continued, " that is your affair, not mine. I can only play the part of a policeman and say ' You have been warned.' "

Ware laughed, though not with the laughter of one claiming superior knowledge.

" Thank you, Sir Francis," he responded quietly. " I appreciate that warning and shall keep it well in mind. I also appreciate your kindness in coming down to give us the advantage of your advice. Er—unless you would care for another cup of coffee, shall we—— ? "

" By all means let us. It is high time we stopped chatting and got to work." Sir Francis pulled out a fat gold watch and glared at it accusingly. " Good gracious me ! I had no idea it was so late. We must get busy, Ware, if we are going to cover all the necessary ground before my train leaves for London. The best plan, I think, would be for you to begin by showing me the machine and its equipment."

He spoke in deliberately business-like tones, as if anxious to restore a matter-of-fact atmosphere after a moment of tension. Sensing his desire, Ware followed suit.

" Just what I was going to suggest," he announced. " We'll go down to the shed at once. Peddar, of course, will be there too—having lunched, no doubt, off cold tea, kippers, rye bread, and marmalade."

Sir Francis shuddered.

" Don't. Please don't. My digestion is sensitive and your anchoretic colleague sounds scarcely human."

There was genuine amusement in Ware's grin.

" Wait until you hear him talking about his beloved calculations. I think you will form a different opinion then. Peddar's as human as any of us—but he takes a lot more knowing."

## CHAPTER 2

### The Man Without a Memory

AS they walked down the road which led from his house to the sheds, Ware appeared to be deep in thought. When he broke the silence it was with an abruptness which told of sudden impulse.

" Do you care for flying, Sir Francis ? "

" Not particularly. It bores me. Otherwise, though, I have no objection to it."

" Good. I'm glad. In that case—and since we have none too much time—I suggest that we take the *Meteor* up and talk things over while in actual flight."

" The *Meteor ?* Is that the special high-flying machine which you and Peddar have built ? "

" Yes."

" In that case I fear I must decline. All my life I have suffered from asthma, and the mere thought of putting on an oxygen mask makes me feel half suffocated."

Halting outside the closed door of a shed, which stood apart from the rest of the buildings, Ware carefully ground the butt of his cigarette under his heel ; nor did he reply until quite certain that the last tiny spark had been quenched.

" We don't need oxygen equipment," he said at length. " In fact, you won't even need ordinary flying kit. You can go up just as you are, for the cabin is air-conditioned to a comfortable temperature and supercharged to an atmospheric pressure equivalent to about 5,000 feet."

" Indeed. That makes a difference, of course. In fact—yes, I accept. It will be an interesting experience. Do you propose to go very high ? "

As he fitted a key to the locked door Ware spoke casually over his shoulder.

" Not particularly. Not much over 40,000, I should think. It rather depends on what conditions we find when we get up there." The lock clicked and the door swung silently open. " Here we are. This is the Temple of Mysteries. We have to keep it bolted and barred because a lot of reporters have been snooping round lately. In fact, only four of us are able to get in at all—Peddar, myself, and our two assistants, Grogan and Spielman. Marvellous technicians, both of them."

Slightly hesitant, for the words " forty thousand " had struck a chill to his heart, Sir Francis stepped over the threshold, shivering slightly as the door closed behind him, shutting out the friendly sunshine and leaving him bathed in a greenish glow like the light in some huge aquarium tank.

Peering up and around in the aqueous gloom he saw that the glow came from

coloured, semi-transparent panels let in to the sloping roof; saw, also, that the greater part of the shed was filled by a vast winged shape. Two men were at work on one of the twin engines whose nacelles merged into the leading edge of the wing.

With the suddenness of an apparition, a figure detached itself from a shadowy corner and moved towards them, limping as it moved. Sir Francis started nervously.

"That's Peddar," explained Ware in undertones. "The poor chap's half-crippled, you know, as well as being half blind, and it looks as if his hip's troubling him to-day. Probably that's the reason why he didn't join us at lunch. Or one of the reasons, anyway." He raised his voice and hailed, the words echoing round the walls like a call in a cathedral. "Hello, Charles. I've brought a welcome visitor—Sir Francis Loring."

THE limping figure stopped dead, then advanced again, but slowly and with dragging feet. Conscious of a sudden keen interest which set his nerves tingling, the physicist followed Ware farther into the shed.

"You knew Sir Francis was coming down to-day, didn't you?" inquired Ware conversationally.

Peddar seemed to make a visible effort to pull himself together. His pace quickened and he held out a welcoming hand.

"I am afraid I had entirely forgotten the fact," he answered courteously. "You must forgive me, Sir Francis. My memory is practically non-existent."

Sir Francis shook hands and chuckled.

"That," he retorted, "is a statement which I can hardly be expected to accept when it comes from the man who has done more than anyone to expand the calculus of quaternions and vector analysis."

He was watching closely as he made the easy compliment, noting the flush of pleasure which darkened the pallid cheeks and the sudden lighting up of the sunken eyes behind their thick, distorting spectacles. "Decidedly a queer fish," he told himself. "As lonely as Crusoe, as clever as Einstein, and as ugly as Caliban."

The quick, pithy similes pleased him enormously, and he rippled again with celestial mirth as he went on.

"I am just about to have a new and delightful experience, Mr. Peddar. I am going up to—ah—forty thousand feet in your *Meteor*."

Instantly Peddar withdrew his hand as though his fingers had been burnt. Utterly rigid, he stared for a second before turning sharply to Ware.

"You propose to fly?"

"I do."

"And Sir Francis Loring is going with you?"

"He is. And you, too, I hope."

Peddar's rigidity relaxed and he rasped the palm of one hand against the bristles of an unshaven chin.

"Oh—ah—I see," he mumbled. "Of course. It will be all right if I come, too. But you must wait a few minutes." Already he had turned and was limping rapidly away. "There are one or two little adjustments I want to make first . . . one or two minor matters . . . been fitting new instruments . . . not certain of their installation."

The limping shuffle changed to a shambling run, and he vanished through an opening in the hull of the *Meteor* like some strange ape seeking refuge in a cave.

With raised eyebrows Sir Francis glanced at his companion. To his surprise he found that Ware was smiling, a queer, half-pitying smile. He coughed discreetly.

"Er—Mr. Peddar seems to be a trifle —ah——"

"Nervy," interrupted Ware with blunt decision. "Precisely. He's been like that for the past two or three weeks. Can't imagine why. It's something new. Every time I say I'm going to take the *Meteor* up he looks at me as though I were a ghost, then makes some excuse, rushes off, and scrambles all over the 'plane making a feverish inspection. Entirely useless, of course, because he can see next to nothing; unnecessary, too, since Grogan and Spielman are scrupulously careful down to the last split-pin. However, since it seems to satisfy him——" Ware broke off to make a little gesture of resignation, then hailed again until the shed re-echoed. "Grogan—Spielman."

The two silent figures, working on the engine, replied in unison.

" Yes, sir ? "

" Open the main doors, please. We're taking the *Meteor* up."

There came a pause which, to the quickening apprehension of Sir Francis, seemed fraught with some indefinable yet sinister meaning.

" Very good, sir."

The figures moved away from the machine. A narrow vertical slit of dazzling light split the furthermost wall, gradually broadening and gaping until a flood of brilliance poured in upon the graceful, eager lines of the monoplane.

Beyond the wall there lay the familiar world of grass and dust, of summer sultriness and shimmer, of hard blue sky and castellated clouds.

Sir Francis sniffed the scents of homely earth, and strained his ears to catch the comforting sounds of fellow-men at work.

. . . " Forty thousand feet," he mused. " More, perhaps. And a line of investigation which arouses every instinct of distrust."

" Yes, Grogan. What is it ? "

Ware sounded impatient. The reply came hoarsely.

" I was wondering, sir, if Mr. Peddar is going with you."

" Yes. He is. What about it ? "

Grogan shifted uneasily.

" I—I was only wondering about the work, sir. What to get on with, I mean. He—I—— "

The rambling sentence trailed away into silence. Ware gently tapped a burly, blue-clad shoulder and spoke smilingly.

" Fed up with us, eh, for breaking up your afternoon's job ? Never mind. Take a rest. Mr. Peddar won't be here either."

" Ah. No. Then—then that's all right. Are you going high, sir ? "

" Forty thousand or so. Get her started up as soon as you can."

Grogan nodded and moved away muttering.

" Forty thousand ? A-ah ! "

It was a simple exclamation, simply uttered, but at the sound Sir Francis shivered again. Unbidden, then, there flashed into his mind the memory of the phrases he had used when speaking to Ware at lunch :

" . . . Appalling danger. . . . You have been warned."

Like a man pulled up short on the edge of an unseen cliff he stiffened and caught his breath. As though he were listening to a distant voice he realised that Ware was talking by his side.

" Shall we get into the cabin ? It's going to be a bit windy out here as soon as the props get going."

" Wait a minute, Ware . . . I'm not sure . . . I think—— "

A snarl like a hungry beast's drowned his halting words as the monoplane's starboard engine started.

## CHAPTER 3

### To Leash the Lightning

BECAUSE he was a level-headed little man the scientist had scoffed himself out of his fears by the time the *Meteor* had left the ground under Ware's firm yet sensitive control.

Humming an operatic air, he leaned against one of the cabin walls, watching the ground fall away underneath as swiftly as though the earth were spinning off upon its orbit, leaving the monoplane suspended in space.

The analogy vaguely troubled him, and he turned to make some casual remark to Peddar, whom he had last seen busily engaged in peering with rapt attention at numerous instrument dials. The words which were already forming on his tongue, died unspoken.

Peddar was gazing fixedly at the partition which divided the rear of the cabin from the small and narrowing compartment that lay at the extreme after end of the fuselage. His strangely thick lips were parted, as though arrested in a cry of fear, and his pale eyes had opened wide in an expression that defied analysis.

" Mr. Peddar."

The scientist spoke loudly, though the soundproofing of the cabin made it unnecessary to speak above normal tones. The spellbound figure paid not the slightest heed.

Sir Francis glanced at the open door leading to the control cabin farther forward. The opening revealed half of Ware's head, and one capable hand grasping the wheeled column. He found much reassurance in that glimpse of easy competence. Even if Peddar did

go daft, he reflected, there would always be Ware at his elbow ready to deal with the emergency. He spoke again, louder still and with an assumption of hearty sociability.

"I find all this intensely interesting, but a little puzzling, Mr. Peddar. I fear that my knowledge of aeronautics is decidedly elementary. I wonder, therefore, if you would be good enough to unravel a few of the—ah—mysteries for me."

This time the spell snapped. Peddar's lips closed and his eyes flickered away from the object of their rapt contemplation. He answered hastily, and with unnatural eagerness.

"Oh, but certainly, most certainly. I shall be delighted. Anything you wish to know. Anything. I gathered from Ware, however, that you are already familiar with the general trend of our investigations."

Quite unconsciously Sir Francis made a little grimace of distaste.

"Yes," he responded heavily. "I am more or less familiar with the objective of your experiments, and, since they come within the scope of my own scientific province, I feel honoured to have been approached for such advice as I may be able to give. That, of course, was the reason why I had such pleasure in accepting your invitation to-day. But, Mr. Peddar, I have already warned our friend, Ware——"

"Warned him!"

The words were scarcely whispered, yet they carried such intensity that Sir Francis stopped as though a hand had been clapped to his mouth. His cherubic face was red with irritation when he recovered himself and continued.

"Yes, Mr. Peddar, I have warned him—and I warn you as well—that you are playing with fire—most damnable and deadly fire. Since, however, it is clear that neither of you proposes to heed my warning, I will not waste my time by developing the theme. I will simply place my knowledge at your disposal and leave it at that."

"Thank you. Thank you very much. It is very good of you."

Slightly mollified, Sir Francis achieved a smile. "It remains to be seen," he replied, "whether my contributions will be helpful or not. I am quite sure, however, that it will help *me* a good deal, if you first explain the conditions under which we are working. This cabin, for example. I observe, from the altimeter, that we have already reached a height of fifteen thousand feet and that we are still climbing with astonishing celerity. I do not, however, detect any noticeable diminution in temperature or atmospheric pressure. Perhaps you will begin by explaining the mechanisms involved."

"Certainly. Of course. And then we can consider the special apparatus——"

Peddar broke off with a gasp as a voice cut in.

"George," said the voice, "has very kindly consented to take over."

WARE was standing in the doorway of the control cabin, smiling down at them.

"George?" echoed Sir Francis in bewilderment. "But I thought we three were alone."

"So we are—except for 'George.'" Hands in pockets, Ware strolled towards them. "Let me explain, Sir Francis," he continued. "Although extremely competent at his job, George can hardly be counted as an ordinary member of the crew. In fact, he only consists of a gyroscope and a number of little servo motors."

"Ah! I see." The scientist seemed relieved. "You are referring, of course, to the automatic pilot?"

"I am. But somehow 'George' sounds so much more friendly, I think, don't you? But let's forget him for the moment. I gathered, from the scraps of conversation which I overheard, that Charles was about to expound the principles of our pressure cabin. That's splendid. Carry on, Charles."

"No."

The word was uttered softly and dully, yet Sir Francis again felt as though he had received a blow. Quick with interest he glanced at Peddar. The pale eyes, which the glasses distorted so strangely, were fixed once more upon the rear bulkhead.

"No," repeated Peddar, without turning his head. "Now that you have come it is for you to carry on. You

always do; and you do it so much better—so very much better—than me."

"Piffle!" Ware laughed, and gave his friend an affectionate slap on the back. "You're a lazy old skrimshanker, Charles. That's what's the matter with you. However, if you don't want to play the cicerone, I will."

"Do, my dear fellow," murmured Peddar. "Please do. I—er—I want to take a few readings—and so forth."

Slowly he turned away to his instruments, with which the cabin walls were covered, and began to peer short-sightedly at the quivering needles. For a moment Ware watched him, his forehead puckered in perplexity, then he addressed Sir Francis with the air of a man returning from the inexplicable to the commonplace.

"I DON'T know that there's really very much to tell you," Ware began. "The ideal structure for a pressure cabin is, of course, a cylinder with hemispherical ends. For obvious reasons, however, that extreme simplicity is impossible in an aeroplane. Streamlining must be taken into account, for example, and the structure must be designed to meet the flying stresses as well as the stresses due to differential pressure. The calculations necessary to arrive at a satisfactory compromise were peculiarly complex, but Charles, of course, simply ironed out all the difficulties as though they didn't exist."

"A notable achievement," remarked Sir Francis loudly. Peddar looked round and smiled in a manner that was both singularly complacent and curiously wistful.

"It was genius," Ware agreed unemotionally. "Well, having decided on the principle of our design—which is a thin, metal, semi-monocoque skin, supported on bulkhead stringers—our next job was sealing. That proved fairly easy. All joints and seams are sealed by strips of fabric soaked in a sealing compound. Where control wires, and so forth, run through the walls of the cabin there are glands which hermetically seal the exits. The door is held in place by twelve bolts, which all work at the same time by a handle which can be turned from either inside or outside. A rubber gasket runs all round the inside of the door and is held firmly in place by the internal pressure. That prevents all possibility of leakage. A similar arrangement applies to the windows. And here we are—twenty-five thousand feet and still climbing like smoke, yet not a trace of breathlessness among the three of us."

"But the supercharging—" began Sir Francis.

"I was coming to that. We use two exhaust-driven turbo-superchargers, each with a capacity considerably in excess of the cabin requirements. There is also an emergency oxygen equipment. The discharge of used air through the cabin is effected by means of an electrically-operated valve which maintains a constant internal pressure no matter what the barometric pressure may be outside. And that really is all one can say about the cabin. It's perfectly simple, perfectly safe, and perfectly efficient up to any height which the wings and engines are likely to be able to reach."

"The maximum being?"

"We don't quite know. Well over 60,000 anyway." Ware laughed as though slightly embarrassed. "And that, Sir Francis, brings me to a confession which I ought to make."

"Indeed?"

"Yes. You see, it was by no means certain that you would be able to come down to-day. In fact, you only wired this morning to confirm the appointment."

"That is so."

"Well, as a matter of fact I didn't expect you, and so I had made other plans for this afternoon. To come straight to the point—I had intended to carry out some practical observations on the balloon field, and I sent the balloons up at dawn." He paused a moment, then continued eagerly. "They are waiting for us. Just think what an opportunity it is. Of course, if you wish to go down now we will do so at once. In fact, I had abandoned the very idea of a flight until we were walking down to the shed after lunch. Then it suddenly occurred to me that perhaps—possibly—you might consent to come up and observe the first experiment yourself, if once we could show that the pressure-cabin really does its job and

makes high-flying really safe. I am hoping, Sir Francis, that we have at any rate proved that part of our claims."

SILENCE followed, a silence in which Peddar moved away from the instrument boards and stood between them, rubbing his hands slowly together and swinging his head from side to side as he blinked enquiringly up into their faces. While Sir Francis still hesitated he surprised them both by suddenly speaking.

"Without doubt it would be a grave pity to miss such an opportunity. Both of you can see the weather conditions a great deal better than I can, but my instruments assure me that the meteorological conditions could scarcely be more propitious."

Although he spoke with calm deliberation, his voice could not disguise an undertone of suppressed excitement. The little physicist glanced at him sharply before turning to stare thoughtfully out and down through the nearest window.

In all directions a sea of clouds stretched, league after league, to an horizon bound about an iron-grey hoop of mists streaked with bands of coppery light. It was a motionless sea, like a frozen tempest, for towering crests thrust themselves high above dun-coloured troughs which tunnelled deep into its substance. Over the iron hoop the dome of the sky glowed with a blue as deep as a gentian, and with a lustre as metallic as nickel.

Abruptly, Sir Francis averted his eyes from the splendour.

"Before I consent," he began evenly, "I want to make certain that you both appreciate the magnitude of the force with which you propose to deal. Do you realise, for example, that, taking the world as a whole, there are something like eight hundred thunderstorms raging simultaneously night and day, year in and year out? Have you stopped to consider that each flash means a discharge representing the release of many millions of volts?"

He paused impressively. Peddar nodded with an air of critical confirmation.

"I have devoted a good deal of attention to the subject," he answered. "Your statistics, Sir Francis, are not far wrong. In my opinion, however, they do not bear directly upon the possibilities which we are about to investigate——"

"Wait a minute." Sir Francis raised a restraining forefinger. "Not so fast, Mr. Peddar. I have not yet agreed to investigate any possibility whatsoever."

Peddar seemed amused, and his thick lips twitched in a fleeting smile.

"That is so," he admitted. "Nevertheless, Sir Francis, I find it hard to believe that one of the most distinguished of living scientists should refuse the opportunity of assisting at an experiment which may prove to be the most historical since the days of Faraday."

"Maybe, maybe. All the same I do not covet the distinction of going down to history as the first physicist who ever arrived in kingdom come at the business end of a forty million volt electrical discharge."

A bellow of laughter from Ware cut the duel short with a gust of cheerfulness which changed the scientist's grumbling into a responsive chuckle.

"It's all very well for you to guffaw, Ware," he complained, "but it does not alter the fact that you have sent up—how many balloons did you say it was?"

"Twenty."

"Merciful heavens! Twenty! You have sent up twenty balloons, each equipped with an electrical condenser of exceptional capacity; each fitted with special devices for charging its condenser to the limit with atmospheric electricity; and each capable, by means of wireless control from this machine, of being linked up with its fellows through a network of cables, so forming the most formidable concentration of energy that man has ever yet achieved. No. I do not like it. I do not like it at all. As I said before, the experiment cannot be adequately controlled and its results cannot be predicted."

"I dispute the last statement."

Peddar was leaning forward, every line of his frail body eloquent of eagerness. As he continued, he quivered with passionate earnestness.

"I dispute every syllable. You say that the results cannot be predicted. You are wrong. I—*I* predict them; and I tell you that we are about to tap a source of power infinitely more accessible than atomic energy, infinitely simpler

than the harnessing of the tides. We are about to leash lightning! Suicidal presumption, you say? No. Again you are wrong. My new transformer can more than grapple with the accumulated charge of the condensers and will step it down to useable proportions. Just imagine what that means. Energy—energy in inexhaustible quantity—withdrawn from the earth's electrical field and subdued to useful purposes. It will revolutionise industry. It will revolutionise life. Yet you hesitate to be among the first to see this accomplished!"

He ceased, trembling and panting. Still held fast by the torrent of words, Ware and Sir Francis stood with eyes fixed upon him; while they watched, the immensity of genius and enthusiasm seemed to be drained away from him, leaving an empty husk of a man, pleading and oddly pathetic.

"So you will agree, won't you?" he pleaded.

Gravely, Sir Francis inclined his head.

"Very well. I agree."

"Good."

Ware rapped out the word in a whoop of exultation, and spun about to the control cabin.

"Splendid," he gloated. "In that case I'll take over from George again. We must climb a lot faster than this."

Cold, intangible fingers squeezed the scientist's heart, and a soundless voice rang out in his brain: "Fool! Fool! Why did you agree?"

"How far must we go?" he quavered.

"Sixty thousand."

Ware was shouting over his shoulder as he scrambled into his seat, fumbling with his feet for the rudder-bar.

Sir Francis shuddered.

"Sixty thousand," he breathed. "Fool! Fool!"

Instinctively, he turned towards Peddar, but at first he did not speak; for Peddar was standing motionless, staring once more at the blank wall, his lips parted and his eyes dark with unimaginable thoughts.

## CHAPTER 4

### The Factor Unknown

WITH an effort which required all his self-control, Sir Francis shook off the paralysis that gripped him. His voice, when at last he spoke, sounded strained and harsh.

"What is the matter? Why are you staring at that bulkhead?"

Peddar started, then turned to him with a smile that exposed uneven yellow teeth, closely crowded in a narrow palate.

"I thought I heard something," he answered. "Something—peculiar. I think, perhaps, I will investigate."

As though driven by some sudden urgency, he limped across the cabin. Closely following, Sir Francis saw, for the first time, that the bulkhead held a door which fitted so closely that the cracks were almost invisible.

A plain metal disc, set flush with the surface, indicated the position of the lock. As Peddar reached out his hand to press it there came, from the other side of the bulkhead, a soft yet unmistakable click. Sir Francis licked lips that had suddenly become parched.

"What was that?" he whispered hoarsely.

Peddar did not reply, but placed his thumb on the disc and pushed. The door remaining unyielding.

"What was that?" persisted the scientist. "I heard a sort of click. What was it?"

The answer came very slowly.

"I am not quite sure."

"But what could it have been? What do you keep in there?"

"As a rule we keep nothing but a few spare parts and extra items of equipment."

"As a rule? What does that mean? Have you got anything different—anything unusual in there to-day?"

Peddar's teeth gleamed in a mirthless grin.

"I am not quite sure," he repeated, "but I should not be surprised."

"Then we must get in at once and see what it is."

"We can't," retorted Peddar. "It is impossible; because, you see, the door has been locked—on the inside."

Without another word Sir Francis turned, ran stumbling to the control cabin, and gripped Ware's arm.

"Quick," he panted. "There's something wrong."

Unhurriedly yet swiftly, Ware set the

cock of the automatic pilot and stepped down from his seat.

"Wrong? Where? What?"

"There's something wrong away there in the tail. On the other side of the bulkhead. Something which clicks. And the door's locked."

Ware's mouth twitched as he stifled his amusement.

"I don't think there is any cause for alarm, Sir Francis," he responded gravely. "No doubt Grogan locked the bulkhead before he left the machine by the exit in the tail. He frequently does. As for the clicking—well, there are several loose objects in that compartment, and the machine is vibrating a bit." Dismissing the matter he glanced at the altimeter before joining the scientist in the cabin. "Fifty-three thousand, eh? I think we'll let 'George' carry on for the last seven thousand. We shall be coming up to the balloons soon, and I want to look out for them. Will you attend to the port side while I keep watch on the starboard? And, Charles, old man, if you can possibly tear yourself away from the clicking fiend, or whatever it is, you might stand by the instrument board for readings."

"All right."

Peddar's tones were indifferent and his face expressionless as he shuffled across to the multitude of dials.

SIR FRANCIS was the first to spot the balloons. He announced his discovery with a shout which brought Ware striding across from his window.

"There they are! Look!"

From his post by the instrument board Peddar spoke flatly.

"It is no use my looking. I shall not see them."

Neither of his companions heeded him, for all their faculties were bent upon a distant swarm of silvery specks, which glittered like a constellation against a sky that was almost black.

"They seem very small," mused Sir Francis.

"They are small, barely twelve feet in diameter, but their combined lift is enormous."

"Those microscopic dots hanging underneath them—are those the condensers?"

"Condensers plus the wireless-controlled switches which will link the whole system together." Ware pointed to a vulcanite bar, set among the instruments and parallel to the face of the board. "That's the key to the whole situation. Haul down that bar and every condenser switch will be thrown to make connection throughout the whole of the cable network. After that——"

He fell silent, nervously drumming his fingers against the window.

"I do not like it," muttered Sir Francis. "I do not like it at all. . . . Sixty thousand feet! . . . Millions of volts!"

"Many millions," Ware echoed softly. "So many that you do not yet know—not even Peddar knows—what I think I shall be able to do with them."

Although it was clear that he wanted to speak in normal tones, his voice held a tenseness which made Sir Francis jerk his gaze away from the silvery constellation.

Peddar, also, shambled forward, peering through his spectacles as though he were striving to capture some elusive vision.

"What do you mean by that?" he demanded harshly.

With a laugh of triumph, Ware clapped his shoulder.

"Charles, old scout," he exulted, "I have a surprise for you. I—even I—have been able to add just one brick to our edifice. It was you who devised the whole scheme; you who designed the balloons, the condensers, and the switches; you, it was, who put me on the right track for evolving the essential alloy for the cables—an alloy, Sir Francis, lighter than aluminium, stronger than steel, and with a better conductivity than copper. . . . It was you, most brainy Charles, who developed the transformer which alone enables us to utilise this power. In fact—to cut my rhetoric short—you have done all the work that really matters while I have been nothing but a sort of superior mechanic *—until now.*"

"And now?" muttered Peddar.

"Aha!" Ware's face was alight as he turned to address Sir Francis. "Without boasting," he said, "I think I may claim to have hit upon a method of using atmospheric electricity for the localised control of cloud formation.

In other words, rainfall and weather need no longer be entirely beyond human regulation. I have kept all this dark, because I wanted to be quite sure of my ground first, and because—— "

A FORMLESS, animal snarl of fury drowned his words.

Peddar was shaking from head to foot and backing across the cabin.

" Because you stole it," he shouted. " Stole it from me. That was my work ! My method ! My secret ! "

" My dear old chap, for God's sake don't fly off the handle like that," Ware exclaimed in amazement. " If you had the same idea and got there first, well and good. Who cares ? Only I do most honestly assure you that I was working entirely on my own and hadn't the foggiest idea that you were hot on the same scent."

" Liar ! " Peddar had reached the instrument board and one trembling hand rested on the vulcanite bar. " Liar ! " he shrieked again. " Liar ! Liar ! "

" Don't be a damned fool, Charles —— " Ware stopped and choked, for the bulkhead door had opened and two men were stepping into the cabin. " Grogan ! " he gasped. " Spielman ! What the blazes do you two think you are doing ? "

It was Grogan who replied, but his eyes were fixed on Peddar.

" Judgin' from the racket," he growled, " we think we're stoppin' a murder. Not for the first time neither." He raised a massive and accusing finger. " That rat's after your blood, Mr. Ware. Again and again he's monkeyed with the controls or the valves on this machine and then put 'em right at the last minute because his guts failed him. Spielman and me has had our eyes on him for a long time, and when you decided to come up this afternoon and bring this gentleman with you, we thought we'd best step aboard ready to lend a hand if there was any funny business. He nearly caught us too, the scum. I only just clicked that lock in time."

Silence fell, a silence unbroken except for the drumming of flight, until Peddar started talking, with a dreadful clarity and calm.

" It is true. Every syllable," he said. " I have often laid plans to kill you, Ware, and as often have thought better of it at the eleventh hour. Time after time I have turned this machine into a death trap, and as often have unset the trap before it could be sprung." He laughed bitterly. " It's strange, isn't it, Ware, to think that this afternoon, when I had made up my mind that you and our guest should be safe, a couple of blundering dolts should decide to stow away and bring matters to a head ? I heard them shuffling about in there and guessed the idiot game they meant to play."

None moved when he ceased.

" You must be mad," said Ware deliberately.

" Perhaps I am. Yes—I think I must be. And it lies at your door. It is you, Ware, who have brought this upon us both—you, by your stealing from me. Because you have stolen, you know—stolen everything that I wanted. Peddar invented ; Ware took the curtain. Poor Peddar ! Peddar ruined his eyes and his health in long dark hours ; Ware bustled about the world and basked in the sunshine. Poor Peddar ! Poor fool ! Poor damned—soft—sapless—spineless fool ! "

Peddar paused, then went on rapidly, excitedly. " But it doesn't matter now, Ware, it doesn't matter a bit. Because, you see, I'm going to justify myself at last. It's going to be a bit of a shock, I'm afraid, but that can't be helped. I'm going to pull down this switch, you see, and it's going to have unexpected results. Why ? Because it isn't only those balloons that are charged with a few million volts. *So is this machine, Ware.* Can you guess what that means ? Ha ! The condensers won't discharge to the transformer. *Ware ; they'll send their million volts through us ! Through you ! "*

Before any could move to stop him he wrenched at the vulcanite bar.

WHEN they stooped above his body, the clothes were still smouldering, and the flesh was withered and black.

" Poor devil ! " Ware straightened his back, and moved slowly towards the controls. " The first error he ever made.

Even I could have told him that at this height there could be no lightning flash, but only a slow discharge."

Sir Francis nodded.

"And that he himself would complete the circuit," he ended. "Ah, well. As I told you before, Ware, no matter what Science may attempt or achieve, it must always reckon with a factor unknown."

"You mean?"

The physicist watched pityingly while the two mechanics set about their task of straightening the contorted limbs.

"I mean *Man*," he answered.

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## The Fact Behind the Fantasy:

### WEATHER CONTROL BY ELECTRICITY

". . . HAVING regard to the droughts of the last few years, an investigation ought to be made as to the possible effect of the high-tension wires of long-distance electric transmission systems on rainfall. . . .

While the electric field produced by our 130,000-volt transmission lines is negligible in comparison with the electric field produced by a thunder-cloud, there are other matters that ought to be taken into account. High-tension wires have often around them brush discharges, which cause negative electrons to be given off into the air. These are carried away by the wind. What the cumulative effect may be no one knows.

If it can be discovered that a transmission line at 130,000 volts extending over lengths up to 600 miles (which must be crossed by the clouds) *does* have an effect in delaying rainfall, we might discover some way of producing the opposite effect and so get some measure of control of rainfall."—*Extract from a letter published in the "Daily Telegraph," May* 27, 1938.

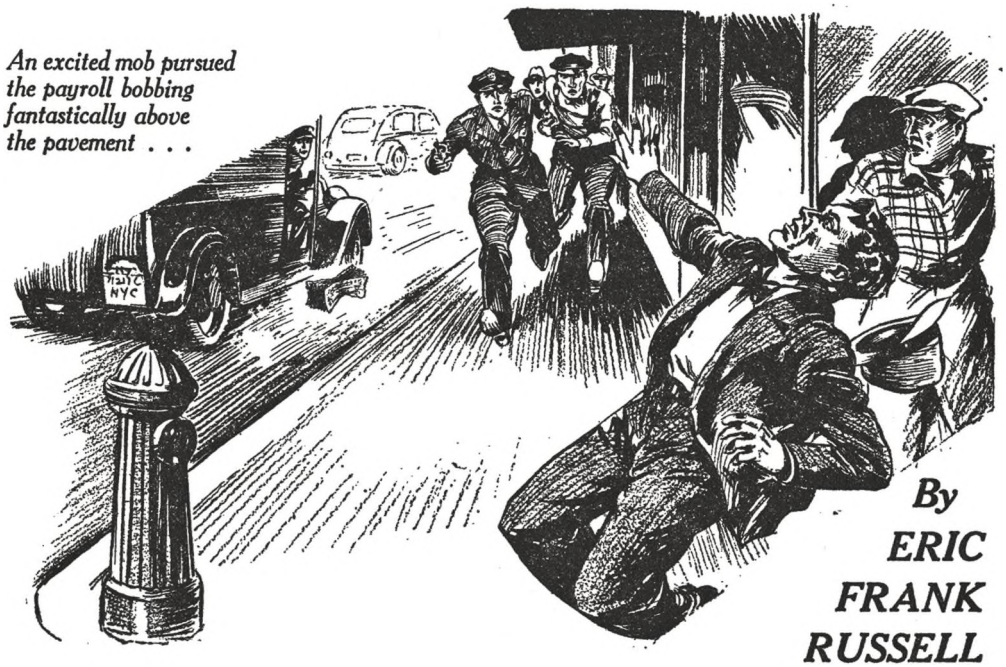
". . . IT IS obviously quite out of the question to put high-tension electric lines at any great height above the ground. But aeroplanes can ascend 10,000 ft. to 15,000 ft. quite easily and could carry up with them steel bottles containing highly compressed air.

If this was emitted through suitable jets and impregnated with fine flint dust, this electrified dust could be discharged into clouds at a considerable height, and the electrified dust might then act as condensation-nuclei and cause the clouds to discharge rain.

It would be quite easy to try the effect of discharging such electrified dust into air at ground level in a room filled with air nearly saturated with water vapour and find out if such dust would produce condensation of the water vapour into raindrops.

The experiment would be well worth trying as, if successful, it might be tried at high levels, and the electrified dust distributed into clouds."—*Extract from a letter from SIR AMBROSE FLEMING, in the "Daily Telegraph," June* 27, 1938.

# Shadow-Man



*An excited mob pursued the payroll bobbing fantastically above the pavement . . .*

By ERIC FRANK RUSSELL

**"Knuckles" Spilla was not the First Man to turn Scientific Achievement to the Practical Uses of Crime—nor the First Crook to be Betrayed by Something he had left Behind**

HASTILY putting down the green vial, "Knuckles" Spilla flopped upon the settee. His legs twitched, his fingers trembled uncontrollably. The stuff from the vial was a veritable hell's brew; he could feel it searing his inside, creeping like heated mercury through his tortured veins, filing along his agitated nerves.

What had Professor Dainton said about it? "Highly radio-active." It had meant nothing to Spilla then, but it meant a lot now.

He lay back, sweat beading his forehead, while Pepito the Professor's Mexican hairless dog, made weird noises out in the yard. According to Dainton's estimate, the liquid from the vial ought to be effective in half an hour. It had taken only fifteen minutes to work on the dog and Knuckles had been a witness to what the concoction did to Pepito.

Agony gave way to a dull, listless ache accompanied by sensations of effervescence in the blood stream. Spilla looked at his naked legs, saw no alteration in their appearance. He stretched his nude form full length and pondered while he waited.

He was on his uppers, but with the means to easy money right to hand. Dainton had provided the means, unwittingly but indisputably. If Dainton had not got himself run over by a car there would have been no need for Spilla to take a chance with the scientist's discovery. But Dainton was dead and it was left to Spilla to give the stuff in the vial its first chance to work on a human being. What it did to Pepito it could do to him.

ONLY the previous Wednesday, he and the Professor had stood in the backyard and tried to see Pepito. The dog had scuttled around with its customary joyful genuflexions, but neither of them could follow its movements. It was brickwork in front of brickwork, wood in front of wood.

Stealing another look at his legs, Spilla found them diaphanous, indefinite.

He blinked, looked again, and knew that he was going to be as Pepito had been. He was going to be all things to all men —or nothing!

Ten minutes later he stood in front of a full-length mirror, stroking a closely shaved head that could not be seen, feeling smooth legs that were not apparent in the glass. Perfect mimicry! What the chameleon could do in a couple of hours his body could do instantaneously and with complete faithfulness.

His chest reproduced the batik pattern of the wallpaper behind him; his feet and ankles simulated the grained oak skirting board. When he moved, the patterns moved in reverse and held their relative positions. The whole thing was incredible, yet true—the truth evident in the empty mirror.

He had thought Dainton foolish enough when the latter picked him up at the prison gates and gave him a fresh start as general handyman. He had been certain that Dainton was unbalanced when he found that the scientist's sole object in life was to satisfy his curiosity about chameleons. Looking at the blank mirror, he knew that Dainton had been quite mad to devote half a lifetime to the development of something that was of no practical use except to crooks.

The old investigator had talked a lot about his eccentric work. Once he had handed Spilla a photograph of a blossom-laden bush.

"Some of those are flowers, but others are not," he had said. "They look like blossoms, but they aren't."

"What are they then?" Spilla had asked.

"Examples of perfect mimicry," the Professor had replied. "They are clusters of plant-sucking Phormnia, insects of the Fulgoridæ family. Individually, they look like tiny, plume-backed, wax-coated porcupines of the insect world, and they are found in the Bengal Dooars and the jungles of Assam. Their mimicry is so truthful that even birds perching on the same branch can be deceived."

Spilla had gaped at the photograph, tried hard to discern which blooms were really blooms and which were insects. It was impossible to tell.

"Countless centuries of evolution have moulded that protective ability," the Professor had declared, "yet the chameleon can exercise similar powers in a mere couple of hours, and adapt the effect to circumstances."

"So what?" had been Spilla's query.

"It is a longer jump from a million years to a couple of hours than it is from a couple of hours to a split second." A determined gleam in his eyes, Dainton had added, "What I am seeking is the secret of instantaneous camouflage."

Then he had plunged into a long, involved speech about chameleons employing some glandular substance that could do to the atoms and molecules of the epidermis what adrenalin could do to the heart. He had talked about chameleons speeding up their vibratory rate until they were reflecting those frequencies of the spectrum compatible with their surroundings. He thought the process could be improved, perfected. Spilla had dutifully agreed, without having the faintest idea of what all the talk was about.

But now he knew that Dainton had found success on the eve of his death. How the formula functioned, Spilla neither knew nor cared. The effect was what he wanted: the cause could be left to those accustomed to handling six-syllable words.

BENDING towards the mirror, Spilla saw the faint outline of himself. It was difficult to discern. He decided that he could see it because he knew it was there, also because he was standing still and his surface was nearer to the glass than was the surface he was imitating. The perspective betrayed him, but not when he moved. The stereoscopic effect dissolved in motion. The thing to do was to keep moving.

Taking a hand-mirror, he turned around and surveyed his own back. It reproduced the batik. All sides of him merged into their respective backgrounds, regardless of the angles from which they were viewed. To all intents and purposes, he was the Invisible Man. Satisfied, he decided that now was the time to collect the John Legattrick Company's payroll and thus turn another scientific achievement to the practical use of crime.

At the front door, force of habit drove his hand towards his hat and coat. He resisted the impulse, and paused with

his fingers on the door-lock. The hall mirror gave him the confidence he required to step into the street stark naked. He set his heavy jaw, opened the door, and stepped boldly out.

Grey clouds framed large breaks of blue that contradicted a promise of rain. The street was drab and sullen beneath the hidden sun, but the air was warm enough to compensate for Spilla's lack of clothes.

A fat little man hurried along the sidewalk, his feet pattering on the shadowless concrete. He made straight towards Spilla, his eyes studying the dull horizon, his mind occupied to the exclusion of all else. Spilla dodged him with a thrill of apprehension, rapidly followed by a feeling of intense relief. The fat man trotted on.

Rounding the corner, Spilla found a pair of chatting housewives strolling slowly towards him. If ever he was conscious of his nakedness, it was now. His spine tingled in anticipation of a dual scream succeeded by a shrill of police whistles. Hugging the wall, feet moving stealthily, he slunk past them unobserved. He felt supremely certain of himself after that episode.

Fourth Avenue was like a game of "Touch" with a million blindfolded players. Spilla had to sneak around standing people, side-step walkers, and jump from the paths of men in a hurry. Several times he narrowly avoided a betraying bump; once he barely escaped being run over by a prowling taxi.

The clock over the First Federal Bank said two minutes to eleven when he reached its doors. He had timed himself beautifully. Within two or three minutes a cashier and an armed guard would arrive to claim the Legattrick weekly payroll of forty thousand dollars.

A glance at the still-clouded sky, then Spilla jumped for a compartment in the Bank's revolving door, entering close behind an unsuspecting customer. Moving to the farther wall, he walked to and fro while he waited. His body was marble against the marble slabs; his constant motion permitted no peculiarity in perspective that might arouse suspicion in the sharp-eyed.

Forty thousand dollars was a nice little sum, he mused. A smart fellow could get around with a wad that size. All he had to do was take it, run like hell, and hide it in a safe spot from which it could be retrieved later. He had marked out such a place a mere three hundred yards away. Once he'd dumped the money his pursuers—if any—would have nothing visible to pursue. It was the easiest stunt in the whole history of larceny—and the green vial held enough doses for a dozen more similar exploits.

Granted, one still had to be clever at planning beforehand; but he, Knuckles Spilla, was cute enough to think of everything. Dainton's formula might be effective for only two hours, but a clever man could arrange every move so well that the time was twice as much as he needed. Spilla ceased his pondering as the Bank's door spun at the stroke of eleven.

A man came through the door, a lumpy man with a big leather bag grasped in his right fist. He was followed by a lean, lanky fellow whose sharp eyes flickered beneath the visor of his peaked cap, and who carried a shoulder holster prominently in view. The first was the John Legattrick Company's cashier; the other his bodyguard.

Both men stumped hard-heeled across the parquet, up to the glass holes yawning above the counter. The first man dumped his bag on the mahogany and pushed a chit through a gap in the bullet-proof glass. The bodyguard hung around and chewed his fingernails.

Rolls of coinage were shoved across the counter, checked on a slip held by the lumpy man, then placed in his bag. Finally came the paper money in the form of a flat, square bundle. Legattrick's cashier reached for it—and grasped air.

WITH the bundle in his sweating right hand, Spilla raced madly for the door. None could see him, but all could see the loot. His imprisoned heart pounded frantically on the bars of his ribs; his ears strained in expectation of shouts and curses; his shoulder muscles cringed in anticipation of impinging, tearing bullets.

No warning yells followed him; no missiles slammed into his spine. The silence was worse than an uproar. He guessed, as he reached the door, that his feet had been faster than the onlookers'

minds. He was making a successful getaway while they stood dumbfounded by the sight of a bundle apparently departing of its own volition.

He went through the door like a charging bull, left it whirling wildly behind him. Two hundred yards to the corner, another hundred to the junk-filled grating outside the pawnbroker's shop. If no snoopers were hanging around, he could cache the money and wander home at his leisure. If observers of the flying package were near the grating, he could race them around the block. Forty thousand dollars! The thought of the prize lent wings to his feet.

The hullabaloo started when he was within fifty yards of the corner. An excited mob poured out of the bank and saw the payroll bobbing fantastically above the pavement. Howls of "Stop!", roars of "Get him!" were followed by two sharp reports, and a whine of lead above Spilla's head.

Sprinting for the corner, he almost collided with a pedestrian whose eyes bulged at the magically suspended package. Spilla swung an unseen but heavy fist to the fellow's jaw, and the man went down as if twitched into the concrete by a subterranean giant. Spilla leaped over him and rounded the corner.

Eighty yards—forty—ten separated him from the grating. He reached it a few seconds before his pursuers got to the corner. There were several people near, but none had noticed the package; all were staring towards the junction from which came sounds of thudding feet and angry voices.

Spilla bent, rammed the payroll between the side of the grating and the dusty window that ran down into the well. The package crimped, slid down, jammed again, then burst through. It flopped into the months-old litter at the bottom of the well.

Beneath the dull but broken sky the hunting pack swirled round the corner a full two hundred strong. They filled the narrow road from wall to wall, their numbers too great to evade.

Grinning to himself, Spilla raced up the road. A quick burst to the farther corner and he'd reach the main artery and lose the baying hounds for good. The money was safe, he was safe, and the world was a wonderful place for guys who knew all the answers. Even Olympic champions didn't get forty thousand dollars for a quarter mile trot. The sun burst through the clouds, beaming in sympathy with his happiness.

Behind, the pack howled. Someone fired a shot, and Spilla heard the bullet moan across his shoulder. He increased his pace, still grinning. Let the fools shoot at random if it relieved their feelings.

Another shot, nearer this time. A hoarse command to halt. Spilla, taking a hasty, backward look, saw that the mob was gaining. They had passed the grating now and were less than fifty yards behind him, with a uniformed policeman and the Legattrick bodyguard in the lead.

EVEN as Spilla looked, the policeman fired again. A hot iron seared the muscle of Spilla's left arm and blood crept down to his wrist.

With nothing with which to wipe the blood away, he could only rush pantingly along, licking his arm as he ran. The corner came nearer; the mob came nearer too. He was within ten yards of the busy main road when two policemen came running in from the other end. Leaping aside to avoid them, Spilla gathered his muscles for the final effort which would carry him into obscurity and leave his pursuers foiled.

The policeman behind yelled something unintelligible, fired, and cut a long red flake of brick from the wall at Spilla's side. Both of the policemen in front looked startled, snatched their guns, and gestured towards Spilla.

"Halt, you!" they shouted.

Desperately now, Spilla dived for the gap between the opposing officers and the wall. Guns flamed on one side and from behind. Pain, red-hot, speared through him, stabbing his lungs. The force of the blows spun him around, and, as he whirled, he knew that he was performing the pirouette of death.

He tottered off the sidewalk, bloody hands clasped to his abdomen, his shocked mind vaguely wondering how he, the unseen, could have been seen. For two seconds he stood with glazing eyes turned towards the sun. Then, abruptly, he collapsed into the treacherous embrace of his own shadow.

# *By Rocket-Ship to the Planets*

**In the Modern Rocket, Science has at last Discovered the Key that may Unlock the Door to Space and Interplanetary Travel**

By

P. E. CLEATOR

*A.M.I.R.E., F.R.S.A.*

THE idea of the journeying through space is no novelty—it has intrigued the world since man first turned his eyes to the heavens. And until comparatively recently it was thought that to conquer the air was also to conquer space, and that a pair of wings would provide man with a passport to the stars. For did not the Aristotelian dictum assert that Nature abhorred a vacuum? And did not the Earth's atmosphere, therefore, extend throughout the whole of space?

It was not until the year 1647 that Blaise Pascal, with the aid of what was virtually the first barometer in history,

convincingly demonstrated the limitations of the Earth's atmosphere and the consequent airlessness of space. And with this demonstration came the realisation that the conquest of the air, were it ever achieved, would by no means entail the conquest of space. With the aid of wings, man might someday fly through the air. But not even the mightiest and most powerful of wings would ever support him in the vacuum of space.

It remained for Jules Verne, about two centuries later, to suggest a method of overcoming the difficulty. He proposed simply to shoot a vessel spacewards from a huge cannon—conveniently overlooking the fact that the terrific acceleration involved would speedily reduce the unfortunate occupants to pulp, and that their remains would thereafter be cremated when the projectile, as a result of its meteoric flight through the dense layers of the Earth's atmosphere, was inevitably rendered incandescent.

Not until the beginning of the present century did there come a belated realisation of the fact that in the rocket man had at his disposal a propulsive device which did not require the presence of air for its operation. Though, even to-day, there are many who subscribe to the old fallacy that air is necessary for the rocket's exhaust gases " to push against." The fable dies hard—despite the incontrovertible fact that rockets actually have been fired in a vacuum, and have shown that they do recoil therein.

### The Rocket Motor

IN the course of early attempts to harness the rocket and to discover a suitable means of propulsion it was soon discovered that the conventional powder rocket was dangerous, uncertain, and inefficient in operation. Attention then shifted to liquid propellants, and, during the last decade, experimenters throughout the world, working singly and in groups, have so developed this method that the rocket has changed almost beyond recognition. From a powder-filled tube it has emerged as a chrome steel combustion chamber, burning a mixture of liquid oxygen and alcohol, petrol, or other hydrocarbon—the so-called rocket motor. And as such, it constitutes the most powerful engine of propulsion yet known to science.

Yet the liquid fuel rocket of to-day is still far from perfect. At best, it has an average burning time of less than a minute. All too soon the tremendous heat of combustion burns out the motor, and this despite the introduction of water cooling, special alloys, and refractory linings.

To the uninitiated, a device which functions for less than a minute may seem little enough to show for a decade of work—even for a decade of work carried out in the face of public apathy and ridicule and continually hindered by a lack of funds. The achievement, however, is far from being as insignificant as it seems. In this brief life period, the rocket is capable of attaining a speed of hundreds of miles an hour. Nor is this mere theory. Experimental Rocket No. 4 of the American Rocket Society reached a speed of nearly 700 miles an hour *within fifteen seconds !*

The rocket is, indeed, essentially a high-speed device. At ordinary speeds of travel, not excepting those of the fastest of present-day aircraft, it is exceedingly wasteful in operation. To realise maximum efficiency the forward motion of the rocket should equal the speed of its exhaust gases. And a fuel mixture of liquid oxygen and liquid hydrogen (the most powerful known) is capable of producing an exhaust velocity of 13,120 feet per second—9,000 *miles an hour !*

Naturally, speeds of this order will not be indulged in at low altitudes, where air friction would spell disaster. But in the stratosphere and in the even more tenuous regions beyond, where the internal combustion engine and the propeller of the ordinary aeroplane become less and less efficient, the rocket will come into its own because of its unique ability to function in a vacuum. As a matter of interest, it may be recorded that there are indications that several of the World's governments are even now experimenting with rocket-propelled stratosphere 'planes, including even the British Government, whose only outward interest in rocket research as yet has been virtually to ban it.

### 9,000 Miles an Hour

IT has been stated that the high speeds which rocket propulsion will make possible will not be indulged in at dangerously low altitudes. It should, however, be added that there are many who maintain that such speeds will never be attained at any height. Their contention is that long before a speed, say, of 9,000 miles an hour is reached, the human system will suddenly and mysteriously have collapsed—just as, when the locomotive was invented, it was predicted that speeds of 30 miles an hour and over would prove fatal to man. The answer is that at this moment the entire human race is hurtling through space at more than 66,000 miles an hour on account of the earth's orbital speed alone. In other words, mere speed, of itself, is of no account whatsoever. It is the time taken to attain a given speed, *i.e.* the rate of acceleration, which is of vital importance.

Jules Verne, as has been seen, ignored this point, but since the advent of rocket research the matter has been the subject of careful enquiry. More, actual tests have been carried out. With the aid of giant centrifugal machines the German experimenters subjected several of their number to an acceleration of 160 feet per second per second for a period of nine minutes, without ill effect. And as rocket travel, at most, will call for a rate of acceleration of only 100 feet per second per second, for not more than eight minutes, it will be evident that the human frame can easily withstand the strain.

There is thus nothing fantastic about the suggestion that the distance between London and New York may be covered in less than an hour. It may—by rocket, and such a flight, indeed, has already been planned. There is conceived an airtight vessel, hermetically sealed and conforming to the well known "falling drop" shape. It will shoot spacewards from a metal runway inclined at an angle of some 60 degrees. When over mid-Atlantic the rocket-ship will have achieved a speed of 10,000 miles an hour and penetrated the inconceivable vastness of space. Thereafter, the lightened vessel (its heavy load of fuel having been consumed) will curve earthwards. Retractable wings will be extended from within its hull, and the descent will assume the guise of a protracted glide, the ship finally alighting on the surface of the ocean.

### A Journey to the Moon

AND the next step? Assuredly, a journey to the Moon—and thence to the planets! Those who hastily pronounce such a journey impossible and contend that the enterprise is surrounded by insurmountable obstacles would do well to remember that what was once the greatest of all problems, that of traction, has been solved. Nothing was more inconceivable than a method of propulsion effective in a vacuum—until the "discovery" of the rocket. To-day, the problem which heads the list is that of fuel. As usual, it is claimed that it is incapable of solution. And, as usual, it is nothing of the kind.

The difficulty is the gravitational pull of the Earth. In order successfully to overcome this pull, it is planned to impart to the space-ship a speed of 25,000 miles an hour—the so-called "escape velocity," *i.e.* the velocity at which the vessel will leave the Earth along the path of a parabola, and so not return. Moreover, the limitations of present day fuels are such that this speed must be attained within eight minutes. From rest to 25,000 miles an hour in eight minutes or less—can it be safely achieved?

It can. For the rate of acceleration involved is the previously mentioned 100 feet per second per second. Thus a preliminary requirement of space travel is a set of liquid fuel motors which will function for eight minutes. It is a seemingly modest requirement, until one realises that in this brief period there will be consumed 4,380 tons of fuel—4,380 tons of the most powerful fuel known to project a vessel weighing a mere 20 tons, and capable of carrying but four passengers, into space! Such is the price which nature demands of those who would forsake the Earth for the habitat of the stars.

Nor is this all, for no allowance has been made for a return. The luckless occupants would simply shoot on and on to infinity! It becomes necessary, there-

fore, to load the 20-ton ship with 60 tons of fuel, sufficient to effect a return from the depths of space. But to free an 80-ton ship of the Earth's attraction requires an initial expenditure of no less than 35,040 tons of fuel, while the total weight of the vessel, at the beginning of its flight from Earth, amounts to 40,960 tons! Such a vessel would be capable of journeying to the Moon, encircling it, and returning to Earth.

The cost of such a ship has been estimated at £20,000,000, and though it may be argued that it would be well worth the expense, it will be obvious that the enterprise is far beyond the bounds of private effort. Furthermore, it will be noted that no allowance has been made for a landing upon the Moon. Achieving a landing, particularly in the case of the more massive planets, would require a truly colossal amount of fuel, for a descent calls for a subsequent ascent, and the fuel necessary to effect an escape from the body visited has first to be projected into space from Earth.

### A Station in Space

IT thus becomes evident that the essence of the problem of interplanetary travel is that existing fuels are insufficiently powerful for the tremendous task demanded of them. The situation can be relieved to some extent in a number of ingenious ways. A tantalising part of the fuel question is that even the comparatively weak fuels of to-day contain more than enough available energy to convey a space-ship to the remotest of the planets—once the vessel is in space. It is the ascent from, and the descent to, the planets which calls for a prohibitive amount of power.

Many suggestions have been made for giving the space-ship an initial impetus, from pushing it along rails, terminating in an upward slope, by a high speed locomotive, to hurling it spaceward from a huge revolving wheel. Such suggestions, however, involve enormous expense and offer the saving of relatively little fuel. Mention of a revolving wheel, however, serves as a reminder that advantage can easily be taken of the centrifugal force of the Earth's spinning by arranging for the space-ship to depart from the Equator.

Alternatively, there is the possibility of neutralising the Earth's gravitational pull by giving the space-ship an electrical charge. Yet another idea is the construction of a station in space—an artificial, metallic moon circling the Earth at a height of 600 miles and specifically designed for the purpose of refuelling space-ships. By this means, a space-ship, departing with just sufficient fuel to carry it to the station from Earth, would be able to replenish its exhausted supplies and then continue on its journey with the expenditure of relatively little fuel. Some experts consider that the achieving of interplanetary travel, even ultimately, will depend upon the construction of such a station.

So much for the indirect methods of easing the fuel problem. But the most simple and direct method is, of course, the discovery of more powerful propulsive agents. To-day, as has been stated, the most powerful fuel available is a mixture of liquid oxygen and liquid hydrogen. He would be rash indeed, however, who maintained that there will not be found a more promising source of energy. Just as modern "high" explosives have largely displaced gunpowder, so some synthetic rocket fuel of the future may revolutionise our present conception of a powerful fuel. The answer, perhaps, is to be found in the phenomenon of atomic disruption (which, as yet, we cannot in any way control), mocking provided by radium and allied substances. Here is more than enough energy, if only we could learn the secret of how safely to release and use it.

### The Key to Space

THE importance of the fuel question cannot be over-estimated. It is *the* problem of interplanetary travel, around which nearly all other problems centre. Given an almost inexhaustible supply of easily controllable energy, the space-ship, instead of being a ponderous device overloaded with fuel and costing millions of pounds, would become a vessel of almost any convenient size desired. No longer would its equipment be limited to the barest necessities and its passenger-carrying capacity confined to but four occupants. Furthermore, with a suffi-

ciently powerful fuel the need for attaining the escape velocity within an eight-minute period would vanish. Instead, a comparatively slow, and correspondingly safer and more comfortable ascent, could be made.

Again, in space itself, a superabundance of power would increase the prospects of a successful journey in many ways. It would ensure that the vessel could be adequately equipped with mechanisms designed to combat the extremes of temperature to be met in space. It would mean that the duration of the voyage could be decreased by virtue of the greater speeds that it would be possible to attain. It would provide a simple means of overcoming the problem of weightlessness, by the maintenance of a moderate and steady rate of acceleration, thereby inducing an ever-present sensation of weight. And it would deprive navigation in space of the terrors associated with the possibility of losing one's course and shooting helplessly onward for the want of extra fuel with which to direct the vessel towards its proper destination.

Almost without exception, therefore, the problems associated with interplanetary travel are reducible to but one problem—that of fuel, and formidable though this key problem may at present appear, there are many expert scientists who consider its ultimate solution is not merely possible, but inevitable. Past history clearly shows that no matter how insoluble problems may have appeared, unremitting labour and patient research have eventually triumphed.

There seems no valid reason why the fuel problem which now faces interplanetary travel should prove an exception. In the rocket there has been found the only known key which will unlock the doors of space. That key has been inserted and found to fit. It is merely that, at present, we cannot summon sufficient strength to turn it.

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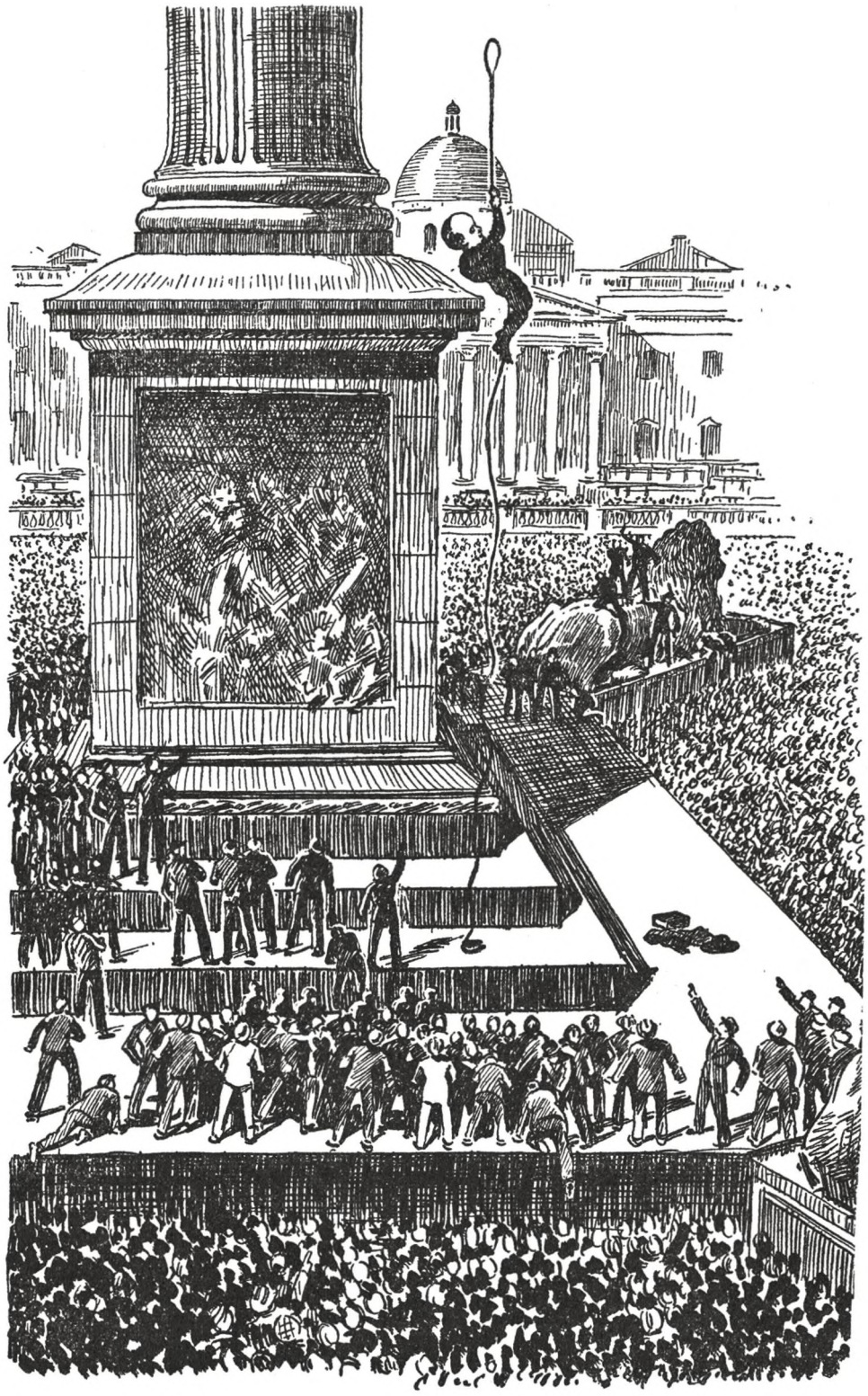
# STRANGER THAN FICTION

**RECIPE** Take 2 lb. of lime, enough phosphorus to tip a thousand or more boxes of matches, a few ounces of table salt, some potassium, some sulphur, enough iron to make a few tintacks, a little iodine, a trace of copper, manganese, silicon and fluorine. Mix well and you have—nothing in particular. Yet that is the physical composition of a ten-stone human being, said Professor Winifred Cullis at a recent Blackpool Rotary conference.

**MEN WITH TAILS** Evidence of the existence of a race of tailed men has been given by a native from the Fly River district, in Papua, according to the annual report of Sir Hubert Murray, Lieutenant-Governor of Papua. Pressed for details, the native was confident of his facts, and when asked why he was so positive, he replied: "Because I ate one of them." Sir Hubert Murray recalls that, several years ago, he had met a much-travelled man who claimed to have seen a tribe of tailed men along the Fly River.

**"ACCELERATOR" DRUG** Remarkable facts about the drug, Marihuana, sometimes known as "Mary Warner," have been given in the "British Medical Journal." The plant is closely related to the hop, and the drug is prepared from a resin found on the flowers and stems and from the leaves. In some ways its action is like that of alcohol. It diminishes self-control and gives a feeling of exaltation and increased power. It also has a curious action on the sense of time, like that of the new "accelerator" of H. G. Wells, though less potent, so that minutes seem like hours and hours like days. Dance-band musicians find when they have taken it that the beat seems to come quite slowly to them, so that they have time to interpolate improvised notes with comparative ease.



*A Long Complete Story of Mystery and Magic*

# THE RED MAGICIAN

**Solivus Vass might attribute his Amazing Powers to the Mental Science of the Martians, but to those who witnessed his Miracles the Magician from the Red Planet was a Being Enshrined**

## By JOHN RUSSELL FEARN

### CHAPTER 1

### A Martian Comes to Earth

IT was ironical indeed that a Martian, when he did finally come to Earth, should do so unheralded and unsung; particularly after the years of speculation by scientists on the possibility of communication with Mars or the visit of a being from that planet.

Presumably, the Martian arrived in the night—but there were no streaks of fire in the atmosphere to announce his coming, no scream of superheated winds. In fact, all the circumstances of his arrival were shrouded in singular mystery. One evening the Sussex Downs were as empty as usual. The next morning one particular hollow was graced by the presence of a curious object, spherical and twelve feet in diameter.

A girl with a fresh-air complex saw it first, at five in the morning, lying smooth and deserted in the summer dawn. She told the farmer and the farmer told the recipients of his milk. . . . By ten in the morning, an interested group of sightseers were prying around the metal globe, trying ineffectually to discover an opening. Some sagely observed that the thing was a meteor, until others with more scientific knowledge pointed out that, if that were so, it would have dug out a crater for itself. And the globe had not done that; there was, in fact, hardly a dent where it rested on the dry, sun-withered grass.

Towards three in the afternoon, the crowd included policemen roping off the space, scientists who gazed with puzzled eyes on the globe and formed highly technical conjectures, reporters who scribbled frantically in notebooks, and a meteorologist who did nothing at all except shake his head gloomily.

None of which was very helpful. The fact remained that a ball of steel, so heavy that mobile cranes sent to the spot could hardly raise it, had mysteriously appeared to spoil the beauty of the Downs. The thing was an eyesore, a tantalising mystery.

Sir Gadsby Brough, who had the

*Nothing like it had ever been known before. The Indian Rope Trick in Trafalgar Square! It was enough to open Nelson's blind eye*

matter in hand, finally decided to bore through the thing with oxy-acetylene flares. Men arrived and got busy behind their blue shields. By five o'clock, a hole large enough to admit a man had been made.

The globe's interior was even more perplexing—filled with all manner of strange devices, machinery which failed to make sense. Several engineers present in the small interior chamber could make nothing of the apparatus, and frankly said so. . . . That was one problem; an even bigger one was; how did anybody get out of the globe from the inside when there was no door?

The globe was a perfect sphere without the least trace of a join or opening, and the more the experts studied it the more baffled they became. Finally, Brough decided the thing should be left where it was under police guard until some means could be found to remove it, or else to explain its complicated inner mysteries.

Mars? Had it come from Mars? A grand peg on which to hang the scientific hat! Young David Turner of the *London Arrow* heard that speculation drop from the petulant lips of Brough himself, and thereupon he returned to London at top speed, writing his copy in the train on the way. Next morning, the *London Arrow* "scooped" all rivals with its arresting question:

*WHAT IS IT?*

Artfully enough, the article did not answer the question it put—but did hint in no uncertain terms that the thing on the Downs was possibly a space-ship from Mars. The fact that it could not belong to Earth seemed sufficiently proven by its huge weight and the absence of all visible means to transport it to the spot where it had been discovered. The major riddle still remained. How had anything got outside it, and if a person, where was he now?

The scientifically-minded minority of the British public tried to solve the problem next morning in tube, 'bus and street. But it was too much like trying to picture something that does not exist, and they soon gave up the attempt.

But not Dave Turner. He had an inner conviction that he was definitely on to something interesting, even though he had a hard job convincing his news editor of the fact. It says much for Turner's powers of coercion, however, that the *London Arrow* kept the subject warm long after the other papers had dropped it, or else were scathingly referring to it as the "Sussex Cannon Ball."

A WEEK later, Turner's grim persistency in plugging the globe in his paper brought results in a singular, not to say startling fashion. Arriving at his modest rooms in Bethnal Green one evening, he found a visitor awaiting him, a fact of which he had had advance warning from a surprisingly startled landlady.

The moment he saw his visitor he understood why the good woman had forsaken eighteen stone of complacency for almost girlish fright. Turner, himself, could do nothing but stare, rub a hand agitatedly through his black hair, and try to look unconcerned. Then he said, as coolly as possible:

"Good evening. I'm Turner, of the *Arrow*."

His visitor did not answer. He remained seated, and even in that position he was obviously a small man, probably not more than five feet tall. His attire consisted of a dead-black suit, without even the relief of a white collar. Instead of a shirt, he had a tight black affair that swathed him to the neck. His back and chest bulged outwards in the fashion of a hunchback, yet clearly it was not a deformity; was, in truth, an apparently natural formation.

All this, and the yellow gloves and wide-brimmed black hat on the table, Turner took in at a glance. It was the man's face and head he could not stop gazing at. The face was alabaster white, with square projecting chin and tight-lipped mouth. Pale green eyes on either side of a long thin nose stared unwaveringly across the room, lent added penetration by straight, deep black brows. And the forehead! Turner had never seen one like it. It went up a full six inches from eyebrows to the roots of the man's glossy, tight-drawn black hair, an enormous dome that seemed as though it should contain all the genius of which a living being is capable.

"I believe you wanted to see me?" Turner managed to get out at last.

"Yes, my friend, I do." The man's voice was deep, slow, and well modulated, with just a hint of condescension. He got to his feet slowly and gripped Turner's hand with one that was cool and strong.

"Well—er—sit down," Turner smiled, motioning him back to his chair and seizing one for himself. "What can I do for you?"

"I wonder," the man murmured, his green eyes still staring. Then he said slowly, "Young man, my name is Solivus Vass. My home is—Mars."

"Oh!" Turner sat in awed silence for a moment. Though he had half expected something like this, it came as a shock to hear it as a stated fact. "Er—strange name," he ventured uncertainly.

"No stranger than David Turner is to me," Vass answered calmly. "However, to business." He leaned forward earnestly, clasping his lean, dead-white hands together. "I sought you out, young man, because you have revealed yourself as a man of intelligence and persistency. You have doggedly maintained the truth of the Sussex meteor when all your ignorant contemporaries have discarded the affair with the slighting observation that my space-machine is a cannon ball. . . . Fools!"

Vass's mouth twisted harshly for a moment; there was a glint of white, even teeth—then again he was his calm, inscrutable self.

"My race," he resumed slowly, "lives under the surface of Mars, deep down under the deserts. In appearance we are not really as Earth-like as I now am. I have been made this way through synthetic means, yet even so my Martian structure of large lungs has not been entirely obviated—as you observe . . . . However, for years we have tried to solve the mystery of space travel, and quite recently succeeded. To visit Earth meant adapting the body to Earthly conditions, which I have done. A week ago I came to your planet.

"Your language?" he continued, forestalling the question on Turner's lips. "A simple matter indeed. You will know that certain of your shorter radio wavelengths pass clean through your Heaviside Layer into outer space? Our apparatus, infinitely in advance of yours, picked up many of your radio speeches. It was simple to learn not only your language, but that of every country in this world. . . . So I came, left my vessel by way of the fourth dimension, and for a week have been in hiding, seeking out one whom I felt I could trust. I have decided on you."

"WELL . . . er . . . thanks very much," Turner said dubiously, turning from those boring green orbs for a moment. "But—but I honestly don't quite know what to say. After all, you're expecting me to believe rather a lot. . . . Oh, I know I've played up your space machine in my paper, but that's my job. I don't always believe what I write, by any means."

"I see." Vass studied him for a moment, then shrugged. "After all, I don't expect you to believe without proof—and, from what I have seen, Earth people require proof to the limit before they will believe anything. It is my intention, while on Earth, to reveal the powers of Martian science. To you of Earth it may seem like magic, but that it definitely is not. I want everybody to realise that Martian science can bring them untold benefits if they will only have it—want them to realise that I, a Martian, come as a friend and not an enemy."

"And why should you wish to confer such benefits on us?" Turner asked quickly. "Is it just generosity, or what?"

"No—business," the Martian smiled. "You may regard me as an ambassador if you wish. The feats I can perform all have their explanation in what we of Mars call mental science, by which clumsy methods are obviated and miracles of achievement produced entirely by mind force. Already some of your Tibetan magicians have the basic roots of the idea; we of Mars have developed it to a fine art. If, after a period, Earth people are satisfied that they too would care to have such powers, then negotiations with my race can begin. Secrets will be given in return for several things Earth possesses which Mars does not. . . . Pure salt, for instance; certain carbon deposits; and there are other things."

Turner nodded slowly.

" I think I understand," he said. And how do you propose to get Earth people to listen to you ? "

" By gaining their interest. Merely to reel off certain scientific formulæ would neither interest nor prove beneficial, but practical demonstrations of mind science will do all I need. To-morrow I will show you, and the world. . . . Can you, in order to obtain what I believe you term a ' scoop,' be present in Trafalgar Square at ten o'clock to-morrow morning ? "

" For a scoop I can be anywhere at any time," Turner answered. " In fact, you've given me one already. But I say, what are you going to do in Trafalgar Square ? "

" The Indian rope trick," Vass replied calmly.

Turner stared at him.

" But, hang it all, that's impossible ! " he objected. " Why, famous magicians from all over the world have combed India for some sign of this trick and have now come to the conclusion it just doesn't exist. One famous magician has even offered two thousand pounds to anybody who can do it in the open air, and—— "

" All of which does not interest me," Vass interrupted with an impassive smile. " I have chosen this particular illusion as a good overture to my powers. To-morrow you will see for yourself. Be under Nelson's Column at ten o'clock in the morning."

He got slowly to his feet, idly picked up Turner's heavy cigarette-lighter from the table.

" If you will give me the aid of your paper I will give you the first information of all my demonstrations," he murmured. " Here is a guarantee of good faith," he finished slowly, and flicked the lighter into flame. Then he blew the flame out again, but from the wisp of dispersing smoke something dropped gently into Turner's lap.

Slowly he picked it up and stared incredulously at a five-pound note !

" How the—— ? " he began dazedly, staring at Vass as he put on his broad-brimmed hat and yellow gloves.

" It's quite genuine," Vass smiled. " Just a little proof by the wayside. . . . To-morrow—at ten."

Then the door was closing silently behind him, leaving Turner staring fixedly at the note in his hand.

## CHAPTER 2

### The Great Trafalgar Square Mystery

TURNER set all London talking with his story in the late editions of the *Arrow* concerning the Martian and his life history. Few believed it ; other papers openly jeered ; but there were many who prepared to visit Trafalgar Square next day, if only to laugh Turner and *The Arrow* out of business.

Turner himself more than half wondered if he had dreamed it all, until he studied the five-pound note in his wallet. That was real enough, even if a microscopic examination of his petrol lighter had failed to explain the cause of the mystery.

Ten o'clock the following morning found him wandering amidst the crowd in Trafalgar Square in the bright summer sunshine. In various directions he could see his rivals lounging about with apparent casualness. Some distance away he recognised his predecessor on the *Arrow*, the keen-witted Joan Wyngate, now of the *Clarion*. She beamed on him sweetly and he rewarded her with a scowl of annoyance.

Big Ben's notes were echoing across the Square as he reached Nelson's Column—and at that moment something happened. There was a sudden flurry among the pigeons and a familiar deep voice spoke quietly.

" Good morning, Mr. Turner. You see, I'm quite prompt."

Turner swung round, blinked a little. He knew perfectly well that the Martian had been nowhere in sight a moment ago, and yet now—— Well, there he was, attired as on the previous evening, but now holding a small attaché case in his hand.

" Oh—hello ! " Turner acknowledged doubtfully, then he looked round him as his rivals drew in closer, and saw on all sides the mass of people who had gathered to see what was going to happen at ten o'clock.

" This is Soli—— " Turner began, but the Martian cut him short.

"I rather think I can attend to this myself, my friend," he said. "No doubt several of these people, particularly your contemporaries, are very surprised to find your newspaper statements correct . . . ?"

Vass's green eyes gazed round and Turner, catching the self-conscious look on Joan Wyngate's face, started to grin. Not that he liked taking it out of the girl—it was the remembrance of her bland, sardonic smile that still clung to him.

"As Turner started to explain, I am Solivus Vass," the Martian went on, removing his hat to excite cries of amazement at the view of his vast skull. "My reasons for coming among you are already known from Turner's excellent account in his newspaper. I shall now endeavour to give my first proof of mental science this morning by doing that elementary problem of yours, the Indian rope trick."

He opened his case at the words and drew from it a length of rope stretching perhaps twenty feet. Casually he tossed it once or twice in the air, and suddenly it stopped upright some eighteen feet from the ground. With a faint smile, Vass removed his hand and gazed at the sea of astounded faces around him.

"Perhaps some of you would care to examine it?" he invited.

The invitation was hardly needed. People milled around in scores, pulled on the perfectly ordinary rope, studied it from every angle—but the miracle remained. Somehow, that rope was hooked on to nothing!

"Am I seeing things?" breathed Joan Wyngate, her blue eyes wide in amazement. "I almost think I——"

"None of you is seeing things," Vass broke in quietly, waving the people back and making a clear space. "I am now going to ask one of you to suggest a spot at which I shall reappear. My intention is to climb the rope and disappear in space at the top. Then, wherever you wish to find me, I shall be there."

"You mean it?" Turner cried in bewilderment, as baffled as the rapidly increasing throng of people.

"Certainly," Vass nodded gravely.

"Well—er—suppose we say outside Victoria Station?" Turner suggested.

"That's it! Give 'im a long 'op!" yelled somebody in the crowd.

"Victoria Station," nodded Vass. "So be it." And with a surprising agility he began to swarm quickly up the rope.

Yet, as he began to reach its mysteriously supported summit, he seemed to fade, nor was it entirely accounted for by the shadow of Nelson's Column immediately to the rear. Fainter he became and fainter—then suddenly he had gone! The space at the top of the rope was empty, and less than a second later the rope had gone too, whisked utterly into extinction.

FOR perhaps ten seconds a stunned, dead silence rested over the crowd. Nothing like this had ever been known before. It was enough to open Nelson's blind eye. Then Turner suddenly sprang out of his trance and started the movement out of the Square. Within five minutes a mob of shouting people was streaming down the Mall and through St. James's Park. Some jumped on 'buses, others ran. Hurried references to an Indian rope trick did little to convince stolid policemen, but on this occasion they were ignored and forced along with the crowd. In the Mall there arose the biggest traffic jam for years as with incredible speed the news passed round.

Victoria Station was surrounded by a chattering crowd, growing larger with the minutes. A tremendous mob collected round the front entrance, to the despair of those trying to catch trains. But as yet Solivus Vass had not appeared. Here and there rose a cry of disbelief. Then suddenly somebody gave a shout.

Vass was on view, safe out of reach of the crowd, half-way up the slanting main entrance roof of the station. How he had got there was as mysterious as his rope trick.

"Friends, my thanks to you!" he shouted, and tossed down the rope with which he had performed his illusion—if such it was. "I have demonstrated to you one facet of Martian mind science. Others will follow. What I have done is not magic, but logical, applied science which, if you are willing, you can all

understand. For the moment I leave you, but I shall appear again."

Even as he spoke something was happening to him. He was becoming misty.

"Vass!" bawled Turner, in the forefront of the crowd. "Vass, wait a minute——"

He stopped, speechless. The space where Vass had been standing was totally empty!

THE sensation caused by Solivus Vass's single demonstration beggared even the descriptive powers of the reporters, Dave Turner among them. In truth, there were no words to describe the thrill that passed through the public's imagination at the knowledge that a Martian wizard was in their midst. Turner, however, still managed to scoop his rivals to a certain extent by writing up colourful stories of the Martian's possible future intentions—world bartering with world, salt in exchange for mind science, and similar matters of which his rivals knew nothing. Everything that had ever been written or discovered about Mars was jammed into every newspaper and magazine.

By newspaper, radio, and word of mouth the amazing feat of the Indian rope trick passed from country to country. America and Europe talked about it in the ensuing week. Scientists and psychologists respectively debated the logical aspects of the affair and finally declared, with exasperating pomp, that the whole thing was impossible and could not be done—that thousands of people had somehow been brilliantly hoaxed.

The suggestion made Turner boil with fury. He wrote stinging retorts to these so-called super-minds and used his paper as a channel for invective—until suddenly his private war was abruptly terminated by the reappearance of Solivus Vass one morning in Trafalgar Square.

The instant he heard of the Martian's return, Turner streaked for the Square, and elbowed his way through the dense crowd to the front ranks. He found Vass had changed his attire now, replaced his black clothes with a flowing affair of red, to be more in keeping, according to his speech, with the colour of his native planet.

"I come among you to help you," he said slowly, standing on top of a four-step ladder. "I want you to realise that all the strange things I do are scientific. I want you to follow me in the cult I am trying to establish, that of mind over matter. I want all of you who have troubles to bring them to me and I will do my best to help you."

"Are you planning an Utopia?" called a reporter, and Vass shook his enormous head.

"No. It is not my aim to alter your ways of living, or to try and improve on nature. You can only progress as nature wills it, but I can do much in other directions. In sorting out difficulties, in feats of clairvoyance, even in telling of events taking place thousands of miles away, I can, I think, lay claim to absolute perfection. In time it is my hope to build a temple wherein my science can be entirely revealed to you. Until then I shall remain in the open, as I am now. . . ."

"Say, if you're so smart, why don't you tell us about something that's happening thousands of miles away at this moment?" demanded a lean-faced man to the left.

Vass shrugged.

"Why not?" he agreed. "Your later papers to-day will bring news of a vast earthquake in Peru; the total wreck of——" He broke off and concentrated for a moment. "Of a transatlantic air-liner called the *Euphrates;* the death just ten minutes ago of Silas Lafnatch, the famous chemist, resident in Australia; and the finding of Dr. Karl Hemfrien, the German explorer, lost over a week ago in a Polar expedition, now safe and sound on an icefloe."

A dazed silence followed the words. Vass stood calmly looking round and the people gazed back at him, convinced against their wills that this man was speaking the truth. Somehow he must have knowledge of these events, which so far had not come through even to the newspapers.

"Are you sure of all this, Vass?" Turner demanded, staring up at him. "Doing a trick like the rope trick is one thing, but just suppose one of these forecasts of yours is wrong?"

"Mind science is never wrong, friend

Turner," the Martian replied impassively, then glanced across the Square in some irritation as a fire-engine came swinging into view, its bell clanging noisily.

In a moment it had overtaken the flood of traffic eternally swirling round the Square and raced on into the Strand. Hardly a moment passed before it was followed by another.

" Look ! " somebody shouted abruptly, pointing. " Fire over there—in the Strand ! "

Faces turned from Vass to a rolling column of smoke drifting on the breeze. Instantly a stir passed through the people ; there was a general movement out of the Square which Vass watched with bitter eyes.

" So they find a fire more interesting," he muttered to Turner, standing immediately below him.

Turner shrugged. " Can't blame them, Vass. There's something about a fire that always gets you. Just can't help but watch it."

" And does that extinguish it ? " the Martian asked, climbing down the ladder and folding it up.

" Of course not. Water or foam does that."

" Such antiquated methods ! " the mystic sighed. " Come with me. I will give you another aspect of mind control."

PUZZLED, Turner followed the Martian out of the Square. In a few moments they had emerged into the Strand near Charing Cross Station and were walking amidst a litter of twisting hosepipes, while policemen with linked hands held back the crowds. Beyond, occupying the efforts of half a dozen fire-engines, was a furiously-burning old building, untenanted and previously condemned, threatening the safety of the buildings around it.

There was a little stir in the crowd as the red-clad figure of Vass appeared. Policemen eyed him dubiously ; one or two firemen glanced round from clutching their hoses.

" It's that conjurer bloke," one of them audibly muttered, and a little titter went through the people.

Vass's green eyes narrowed a little, then with sudden resolve he opened his ladders again, mounted them, and stood over the heads of the crowd.

" Why do you not use the power of mind ? " he demanded fiercely. " Force matter to obey you, as I do ? For this occasion I will demonstrate for you ; later, perhaps, you will learn for yourselves. Watch ! " He held forth his right arm rigidly, fingers pointed at the blazing building. In his green eyes was a stare so intense that the people moved away uneasily : it was the intent glare of a hypnotist.

The firemen went on with their job unconcerned ; then, gradually, there arose a general mumur of amazement as it became obvious that the flames round the upper part of the old building were decreasing. Vass still glared at it, and the longer he glared the less the fire blazed. Certainly it was not the firemen's hoses that were responsible.

The flames gave way to smoke, thick dense clouds that gradually vaporised and became steam ; then finally not even steam. There remained only the smouldering hulk of the building and a great pile of glowing ashes. Utterly bewildered, the firemen continued to play their hoses on the ashes until at last the fire was wholly extinguished.

Slowly then, they turned with the people to face the coldly smiling Martian. His arm was back at his side now.

" Now you see ? " he asked softly. " Mental science—again."

Firemen, sightseers, and policemen forgot their various tasks to group around the Martian and listen to the tale of science allied to mental magic of which he had to tell them. Turner only listened to part of it, then he rushed away to get the story into the *Arrow*. Once again he scooped the board.

And that same afternoon a thrill of profound wonderment was added to the miracles of Vass as the news began to trickle through of an earthquake in Peru and the wreck of the *Euphrates* over the middle of the Atlantic, only discovered at 2.30 p.m. by a passing vessel, nearly four hours after Vass had described the occurrence !

Sure enough, too, the report of Silas Latnach's death soon followed, and, much later, a brief report to the effect that Dr. Karl Hamfrien had been found. All widely spaced events, all of them

incapable of being known without visiting the actual spots concerned, which Vass certainly had not done. Events as far apart as Australia, the North Pole, and Peru.

The stock of the Red Magician, as he had become popularly known, soared to fantastic heights. He became a being enshrined.

## CHAPTER 3

### The Disappearing Scientist

SUCH an extraordinary person as the Martian magician could not for long remain the exclusive property of England: he was essentially international in appeal.

After his fire-extinguishing effort and the forecast of world events, he suddenly rocketed to fame in all the newspapers of the world. Vass cults sprang up in several countries. Europeans and Americans came to get a glimpse of the green-eyed, impassive wizard as, for a fabulous salary, he consented to make a tour of the halls and demonstrate his powers.

Quickly and apparently without knowing it, he turned the whole country inside out. People who asked his aid found it freely given when he was assured that money was a consideration with them; but in the case of the wealthy he charged enormous fees.

The main demand was for him to discover far-distant relatives, ascertain their state of health and position, which, when supplied with adequate descriptions of the people concerned, he invariably did. Others came with stories of lost articles, and with very few failures Vass stated the exact spot where they could be found.

One famous shipping magnate enquired if a ship sunk in a certain latitude in 1928, below the reach of divers, was worth making an effort to salve. Promptly Vass gave the answer that the vessel had a great deal of gold aboard—and, when the ship was finally brought to the surface, his prediction was found correct even to the number of gold bars.

Newsreel companies were quickly on the job, and commissioned Vass at tremendous fees to advise them the instant his mind detected an unusual phenomenon anywhere in the world. Not once did he fail, though he often saw occurrences in places inaccessible by human beings, except by tremendous labour.

Definitely, Vass was a wizard, though he explained it all away as mind power, a fact which caused several famous specialists and psychologists hurriedly to revise all their preconceived notions on the brain and its possibilities. Even though Vass was a Martian, he still had a brain.

Criminals were in mortal dread of Vass. His uncanny ability to probe unknown places proved an assistance to the law on more than one occasion, particularly in locating fugitives from justice. Crime in all branches began to drop to a surprisingly low ebb as the Red Magician gained power.

Inevitably he amassed money, opened a suite of rooms in the Strand, and had special hours for consultation. Scientists, psychologists, spiritualists, religionists, Yogi experts, and self-confessed illusionists from all countries spent hours in conversation with him, only to leave as baffled as ever. The illusionists, in truth, were distinctly annoyed. It was next to impossible for them to get a booking on the halls with Vass holding the field.

Month by month, with a tremendous total of mysteries and discoveries to his credit, Vass slowly mastered the entire interest of the public. He was important enough to oust international relations and air raid precautions from the front pages of the dailies and then, in December, he announced that his tour was going to cease and that he intended to build the Red Temple, to be devoted entirely to the interests of Earthly mankind.

VASS chose an appropriate site for his temple, the very spot whereon he had destroyed the fire several months before. Following his announcement, he dropped from sight for a time, but Londoners passing the heavily-boarded region near Charing Cross Station, trying vainly to get a glimpse of what was going on beyond, wondered what new secrets the Red Temple would have to offer.

Dave Turner was one of the reporters who tried to view the Temple while under construction, at first without success for even the roof of operations was covered with tarpaulin. When at length the tarpaulin was removed he beheld nothing unusual, merely a gang of workmen erecting girders across a waste of concrete floor. Of Vass himself there seemed to be no sign, though there was little doubt he was somewhere around directing operations.

From time to time Turner published long descriptions of the Temple's progress, complete with photographs. He was, in fact, thoroughly determined to keep the Magician in the public eye, until at length, the *Arrow's* editor began to get annoyed.

"Listen, Turner," he snapped, one afternoon, after going through the copy, "this stuff about the Temple may interest you, but to the public it's just getting to be the story of a lot of plaster. At first you turned in good stuff with a human angle, told us all about Vass from babyhood, his life on Mars. You've got to do it again or something like it. Get some—some zip into your column. Understand?"

"Such as?" Turner asked drily. "I can't even find him to——"

"That's your worry—you're the reporter. Why don't you find out how he does his tricks?" The editor stopped, looked up with gleaming eyes. "Gosh, that would be something!" he breathed. "He says he does it all by mind force or some such stuff—but just suppose he doesn't? Suppose he's a fake, for instance? What a scoop that would make!"

"A fake?" Turner echoed blankly. "After all he's done?"

"Well, anyhow, it's an idea. Find out something or else take another assignment. It's up to you. And why don't you ask some of the experts, like Sir Gadsby Brough, what they think about Vass? Haven't had many outside opinions lately."

Shrugging his shoulders, Turner walked out slowly. He felt rather irritated by the fact that a doubt had been born in his mind. A fake? To his ordinary common sense it seemed unthinkable: besides, he rather liked Vass. But to his journalistic sense the idea of proving this supreme wizard to be a charlatan had a spicy appeal. A wild goose chase, probably, but—just suppose?

WITH a slow grin on his face Turner made for his office desk and took up the telephone. In a few moments the impatient voice of Sir Gadsby Brough was floating over the wire.

"Sir Gadsby? This is Turner of the *Arrow*. Can you grant me an interview to record your opinion of the Red Magician?"

"I certainly cannot!" came the cold retort. "I have a monograph on interspatial tesseracts to finish. So far as I am concerned the Red Magician is a cheap showman and there is no point in discussing him."

"Cheap showman!" Turner cried. "But hang it all, Sir Gadsby, you can't mean——"

"Don't interrupt! I admit the Magician is clever, but I object to him turning the dignified profession of scientist into a cheap music hall entertainment—glorfied conjuring tricks!"

"Well—er—do you believe he's a Martian?"

"Lacking evidence to the contrary, I have to. His immovable space machine seems to make that point clear."

"But is there any way in which his ship might be moved scientifically? I mean by—well, say, the fourth dimension?"

"Fourth dimension or otherwise the weight is the same," Brough snapped. "No known means can yet explain that globe or its complex inner machinery."

Turner, scribbling busily on his writing-pad, had already got the interview details he needed.

"How do you account for the Indian rope trick?" he asked.

"I am not a Hindu fakir, young man."

No, Turner reflected, he could hardly imagine the old boy prostrate on a bed of nails. Stifling a sudden desire to laugh, he continued his questioning.

"I know that, sir," he said, "but could you—could the Magician—produce the rope trick *scientifically?*"

Brough seemed to consider.

"Well, possibly," he replied, after a long silence, "by some trick with light waves, but—— Look here, Turner,

you're wasting my time. I have work to do."

"Sorry," Turner murmured humbly. "You were saying about light waves——"

"I've no time to go any further. If you're so anxious to know about light waves, why don't you read Abel Karton's observations on them? Your own paper published his views a couple of years ago, when he tried to interest the War Office in a new invention. Very clever treatise. I have the column filed. . . ." Another pause, then, "September 12th, 1938, was the date. Now good-bye!"

"Thanks, Sir Gadsby." Turner rang off, thought for a moment, and surveyed his notes. "September 12th?" he muttered. "That was before I came here—one of Joan Wyngate's jobs. Abel Karton? Never heard of him."

JUMPING to his feet, Turner made for the filing room, turned up the issue of the *Arrow* in question, and searching through it, finally discovered the interview on the back page with Joan Wyngate's by-line.

The interview was of considerable length, and was, in essence, an indictment against Governmental red tape when it came to the consideration of really valuable scientific inventions. In the course of his statement, Abel Karton had touched with a highly technical accuracy on light-wave control, the fundamental states of matter, and synthesis. Turner was not a first-class scientist, but he did know enough to piece the interview together. It was not the science that really mattered, however, so much as Abel Karton himself.

Within ten minutes Turner was in the offices of the *Clarion*, searching for Joan. He found her at length in the canteen, busy with her lunch.

"Well, light of my life!" she exclaimed in amazement, as Turner sat down opposite her across the table. "And what brings the *Arrow's* mastermind into the enemy camp?"

Her blue eyes regarded him suspiciously under her pert little hat. Turner reflected it was a pity their rival positions precluded any demonstration of affection. Curiously enough, his collar always seemed too tight when he met Joan face to face like this.

"Well, well?" she prompted, as he sat gazing. "What's the idea? Don't mind me eating, will you?"

"Eh? Oh—no, go right ahead. . . . Joan, do you ever remember interviewing a scientist called Abel Karton?"

"Do I!" the girl echoed with a whistle. "It was almost my last job on the *Arrow*. I spent one entire afternoon listening to him spout about light waves and planets and things. I was as dizzy as a top when I got back to the office." She stopped suddenly, lowered her tea cup. "Why?" she demanded.

"Oh, I just wondered." Turner tried to look casual. "You see, I've some work to do that may need Karton's help. I came across your article and looked you up. . . . What's he like, this Karton? Where does he live?"

"Last I heard of him, a couple of years ago, he'd gone to France. I don't know where he is now. He tried to sell some scientific ideas to the Government, you know, and when they didn't bite he got the needle and went to the Continent." The girl shrugged her slender shoulders. "Rather a funny old codger," she murmured. "Short, white-haired, green-eyed, and——"

She broke off suddenly at the change of expression on Turner's face.

"Dave Turner, what *are* you driving at?" she asked coldly.

"Nothing, Joan—honest." He got to his feet. "Since he's on the Continent that rules him out for me. Pity! Well, thanks all the same. See you again some time."

Joan stared after his fast retreating form, then frowned at her plate.

"Now what did I say that might . . ." She looked up suddenly. "Good Lord! Dave Turner *is* a bright little boy after all! Maybe a bright little girl can do something too!"

She scrambled her things together and hurriedly departed.

IN the meantime, Turner was frantically searching *Who's Who*. The current issue made no reference to Abel Karton, but the 1938 edition referred to him at considerable length: Professor of physics, holder of the Mathematical Chair in the Vienna Scientific Institute, author of works on space, the phenomena of light, molecular funda-

mentals, and some subjects entirely unpronounceable. Residence: "The Willows," Littlehampton, Sussex.

That settled it for Turner. For the rest of the day he went off on the trail, rained inquiries on Littlehampton, tried every trick he could think of to extract information, and made copious notes. By late evening he returned to London in a complacent frame of mind.

There was not the slightest doubt, to his way of thinking, that Abel Karton —now apparently disappeared nobody knew where—was actually none other than Solivus Vass, the Martian. The clue of the green eyes had been an obvious one, and the coincidence between the profound knowledge of Abel Karton, clearly a century ahead of his time, and the Red Magician was too obvious to be missed.

No, there was little doubt about Karton being Vass, mysteriously altered to look like a Martian, but the discovery by no means explained the full puzzle. His motives? His astounding stunts? His immovable space machine? Turner shook his head in bewilderment. In finding evidence of Vass's real identity he had, if anything, got himself in a bigger pickle than ever, for, until he had definite proof of Vass's motives and an explanation for his feats, he dare not breathe a word.

## CHAPTER 4

### Wonders of the Red Temple

FOR a month after his discovery Turner found himself busy on trivial, irritating assignments, and did not take up the old thread again until Vass reappeared before the public eye in the early New Year with the announcement that his Red Temple was finished, and that he was now ready to demonstrate Martian science as never before.

The public swallowed his every statement with the same gullibility as before, and Turner permitted no hint of the real truth to escape. His main task now was to solve the reason for all this hocus-pocus. His request to be the first to examine the Temple was readily granted.

In shape it was circular, built in red brick, with a roof that went up to a triangle. This general architecture, the triangular windows, and the neon-sign—"Red Temple"—gave just the right hint of mystery to appeal to a credulous public.

Inside the building, Vass keeping him company, Turner wandered along the cool, circular hall entirely enclosing the central circle of the main building. The hall walls were liberally supplied with arresting-looking doors in burnished metal, designated as "Meditation Room," "Consulting Room," and so forth. Each of them was cool, light, and tastefully furnished. But Turner's main attention centred on a doorway larger than the others, composed of material resembling polished jet, almost facing the entrance way.

"Something special?" he asked quickly.

Vass smiled.

"My demonstration theatre," he explained. "Please enter."

He flung the black doors wide and switched on clusters of yellow globes. Turner gazed over numberless orderly rows of raised seats, and walked slowly along the central aisle gazing at the heavy, ornate draperies on the walls, until at last he came to the raised platform with its black-velvet backdrop curtains.

He mounted the steps and regarded the smooth steel floor, then drew back the draperies and surveyed the metal walls.

"You mean you are going to perform feats in here?" he asked, frowning.

"Exactly," Vass nodded. "Rather an interesting place, is it not? Entirely metal save for the ventilation grilles in the ceiling. On this stage I will perform all my magical feats, and I believe I will fully convince the world of the power of mind."

"If you can do it with walls and floor like this you certainly will," Turner confessed. "It's as solid as the Bank of England's vaults."

"Do you doubt my prowess?" Vass asked slowly.

"Eh? Why, no, of course not. It's just that I'm rather mystified as to how you do it. . . . However, thanks for the story. I'll splash it in the *Arrow*. When do you demonstrate?"

"To-night at eight." Vass gave a faintly cynical smile. "I have invited all the famous scientists in Europe to come along. They of all others are the hardest

to convince. . . . Strange indeed how obtuse the earthly mind can be."

"So I imagine," Turner observed quietly, then with a final nod of thanks he turned and left the stage, puzzling to himself as he walked out of the building.

He could not rid himself now of the impression that his theory had a flaw somewhere. Facing Vass again, sensing his compelling personality, surveying his mighty dome and odd shoulders and chest, he began to wonder. Martian or Earthman? Magician or fake? It ran as a tempo in his brain as he wrote up the story of the Red Temple and its impregnable construction.

THE rest of the day was an annoyance to him: the evening was the only thing that interested him, and when he did step out of the *Arrow* offices into the biting east wind to head for the Temple he found the trim form of Joan Wyngate waiting for him in a nearby doorway.

"Ah, the scoop king in person!" she smiled, deliberately hooking her arm through his. "Do you mind taking a nice, attractive girl to the spook house? Otherwise the Red Temple?"

"Well, no, but——" Turner paused uneasily, looked at the girl doubtfully in the lights from the shop windows as they walked along. "What's the idea, Joan?" he asked shortly.

"You have the idea that I'm an addle-brained girl who can't possibly compete with masterful males, haven't you?" she asked sweetly. "Well, that's where you're wrong. You gave yourself away all over the place when you questioned me in the canteen. I've not forgotten a single word you said, but my main recollection is your amazement at learning Abel Karton had green eyes. So, says little girl, has the Red Magician. Connection obvious. Is he a fake or is he a Martian? Joan Wyngate gets to work and decides to find out—without much success, so far," she finished, sighing. "But think what a great scoop it will make for the *Clarion* when I do solve the mystery!"

"So that's it!" Turner breathed fiercely. "You confounded little—— Oh, well, I suppose it's my own fault," he growled. "I might have known you'd guess the idea. All the same, I wanted the story for the *Arrow*."

Joan smiled.

"All's fair in—in war," she said. "We both want it and we're both on newspapers. Since we're rivals we can't officially co-operate, but *unofficially* . . ." She smiled captivatingly. "I'm not a hard girl to take out to dinner sometimes," she murmured; then, becoming serious again: "Honestly, though, I can't quite identify Abel Karton with Solivus Vass. The size of Vass's head for one thing. Karton had a pretty good one, but not quite like a top hat. Besides, if Vass's head is false there'd be a join round his forehead, and there isn't."

"Humph!" Turner growled moodily. "I've got doubts, too, after what I saw this morning." Briefly he related the details of the demonstration theatre, and when he had finished Joan wrinkled her nose in puzzlement.

"Must be a catch in it," she commented; then they ceased talking as they reached the Temple, and went slowly up the steps with the crowd.

Inside the brightly-lit hall Vass himself and a burly commissionaire were marshalling the people into order as they moved into the demonstration theatre. The scientists, with Sir Gadsby Brough well in evidence, were already in the front row. To the left, whither Joan and Turner moved, was the press section. The rest of the theatre was filled to the great doors with eagerly talking people.

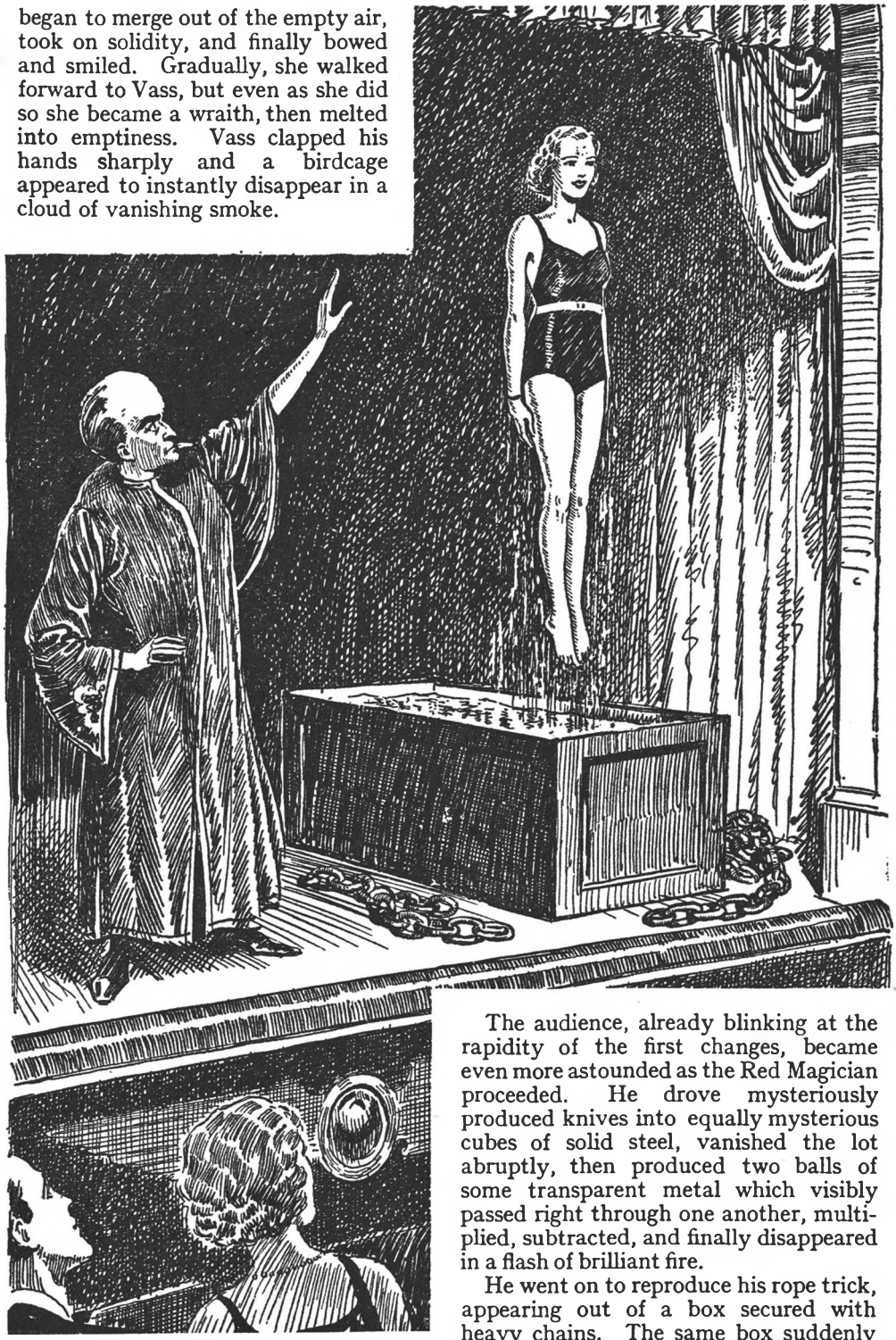
"Creepy, isn't it?" Joan whispered, tugging out her notebook and gazing across at the black-draped stage.

Turner nodded, then settled down to watch as the doors were closed and Vass slowly mounted the platform, holding up a hand for silence. The murmuring died away.

"My Earthly friends," he said softly, "I have dedicated this Temple to you. The feats that will take place here are demonstrations of Martian mind science. Once you are convinced—once you are all convinced—my work is over. You can have my knowledge in return for certain valuable Earthly possessions, valuable, that is, to Mars. Now, shall we begin?"

He stood for a moment in silence, his huge head catching the yellow light of the globes. Gently he waved his right hand, then the audience gasped a little as a slender girl, clothed in Grecian style,

began to merge out of the empty air, took on solidity, and finally bowed and smiled. Gradually, she walked forward to Vass, but even as she did so she became a wraith, then melted into emptiness. Vass clapped his hands sharply and a birdcage appeared to instantly disappear in a cloud of vanishing smoke.



*Very gradually, she rose into the air, suspended upright without trace of support*

The audience, already blinking at the rapidity of the first changes, became even more astounded as the Red Magician proceeded. He drove mysteriously produced knives into equally mysterious cubes of solid steel, vanished the lot abruptly, then produced two balls of some transparent metal which visibly passed right through one another, multiplied, subtracted, and finally disappeared in a flash of brilliant fire.

He went on to reproduce his rope trick, appearing out of a box secured with heavy chains. The same box suddenly became full of green water from which emerged the former Grecian girl, now in

modern bathing-costume. Vass regarded her steadily. Very gradually she rose into the air, remained suspended upright without a trace of support.

"Mind power," he smiled. "Sir Gadsby Brough, your reputation is beyond reproach. Please be so good as to come up here and satisfy yourself as to the absence of wires and gadgets."

The scientist, driven on by curiosity, obeyed the injunction, and waved his hands and his walking stick above and around the motionless girl. He returned to his seat with a mystified expression on his face.

Vass gave a slow smile, waved his hand idly. As before the girl grew transparent, vaporised, and vanished. A deep intake of breath passed through the audience.

HARDLY pausing, Vass went on and on, producing effect after effect. He produced dazzling backgrounds of India and the Orient, rolling oceans, screaming hurricanes, limpid lagoons, flaming sunsets of eye-wrenching colour —even convinced everybody they were staring down into the blazing maw of Vesuvius' greatest depths. Then a flash and the stage was empty.

He stood smiling in the soft lights, bowing gently at the thunderous applause.

"Elementary mind science, not to be confused with hypnotism," he murmured. "I do it merely to prove to you that my powers are in no way decreased. At various times other demonstrations will take place: in the meantime, every day, I am at your service."

Again the applause raged through the theatre and he descended slowly from the stage. Little by little the people began filing out of the theatre into the hall, with Vass coming up in the rear. Out in the hall he smiled round on the talkative crowd, his back to the ebony doors.

It was then that Sir Gadsby Brough emerged from the press, his round, fleshy face frankly cynical.

"Vass," he said slowly, "I don't pretend to know how you do these conjuring tricks of yours. I don't know how you produce distant scenes, make a girl float in mid-air and fade from sight; but I do say that I'm not convinced. I believe you're a fake, sir—a fake!"

"So?" Vass's black eyebrows rose questioningly. "I rather thought I had convinced you, Sir Gadsby."

"Not a bit of it! Mystified me, yes, but nothing else. What is more, if you maintain you have nothing to hide, I demand to examine this theatre of yours."

Vass smiled faintly, gazing round on the watching people.

"Friends, we have a doubter in our midst," he observed. "Are there any others who would like to examine the theatre and satisfy themselves?"

"Yes, I would!" Turner moved forward resolutely with Joan by his side. Nor were they the only ones—several others advanced.

"How surprising!" Vass ejaculated. "At least I thought you were satisfied, Mr. Turner. However, please enter." and he flung the black doors wide open.

Brough was clearly surprised at the ready acceptance of his demand. He went forward slowly into the theatre with Turner and Joan beside him. Vass came up in the rear with other people trailing curiously behind.

Brough made no pretence of being cursory. He pulled aside the drapings and thumped the wall, even went down on his knees and banged the floor. Turner and the girl divided their labours by covering the wall inch by inch, examining the metal closely for the least sign of a flaw. For nearly thirty minutes, helped by Sir Gadsby and other doubters, they examined the place from end to end. They reached the doorway again with somewhat ashamed faces.

"Well, I'm damned if I can understand it!" Brough snorted, rubbing his bald head. "Floors and walls solid metal. No signs of apparatus or machinery—unless it was mass hypnotism!"

"Controlling all these people?" Vass asked quietly. "Really, my dear sir!"

Sir Gadsby shrugged and bit his lip.

"It's clever," he growled; "infernally clever, but you can do your tricks until Doomsday before I'll admit you're a Martian magician. Faker, sir! Blasted faker!" and swinging round he strode out with pouting lips.

Vass watched him go, then turned back to his adherents.

"Thank you, my friends," he murmured. "You have satisfied yourselves.

To-morrow I shall be ready to help you in every way I can. Good night—good night. . . ."

He herded the people slowly out. Turner and Joan went down the front steps together into the busy whirl of the night traffic. It seemed genuinely stimulating after the weird nature of the theatre. Wordless, they looked at one another.

"Joan," Turner said presently, "we're either a couple of prize idiots or else Vass is a genuine miracle worker with mind creations. What else but mind force *could* produce those effects in a steel theatre?"

"Don't ask me," the girl sighed. "Better try some supper and talk it over."

But talking it over did no good. The more they examined the problem the more they saw the hopes of their joint scoop receding. They still faced that inexorable question—Martian scientist or brilliant charlatan?

## CHAPTER 5

### The Clue of the Needle

WITH the passing days it became an obvious, even a disturbing fact that the Red Magician had the capital of the Empire entirely under his sway. His extraordinary personality, his feats of wizardry, his uncanny occult powers at beholding things denied to ordinary men were quite sufficient to master the main bulk of London's population, and those who travelled to see him were usually convinced after one interview.

Day after day his Temple was packed—endless streams of money flowed into his lap. Wealthy women in particular came in droves for him to satisfy their every little worry; which he did, for a fabulous price. His streak of generosity in giving poor people free opinions for their guidance was something that endeared him at once to the general public.

The Continent began to reveal interest. Vass invited a deputation of European scientific experts to London and thereby vastly extended the sphere of his subtle influence. The United States were less ready to accept him, more prone to scepticism; but at length even they succumbed and with typical fervour hailed Vass as the eighth wonder of the world. Why not make him President? Why not even make him World ruler and have his strange powers sort out the complex difficulties of a sadly-troubled planet?

England caught on to that idea. The Continent thought it was going too far—but for all that, so fanatical is hero worship in its extreme form, the possibility of Solivus Vass, Martian, becoming lord of the Earth grew less and less unlikely as time went by.

Some saw disaster in that possibility; others saw world peace. Dave Turner, for his part, did not know quite what to think. He and Joan, checkmated in the intervening weeks by lack of angles to work upon, had let things slide a little. Now this new notion to make Vass a World dictator by popular vote started them off on the trail again. Somehow the relationship between Solivus Vass and Abel Karton had got to be solved, to be substantiated before he had the whole world in the hollow of his hand.

One great handicap was that Vass never left the Temple. He lived there all the time, so that any hope of examining the place without his knowledge was out of the question. None the less, that did not prevent Turner from studying the Temple from every angle, and comparing the measurements he made with his mind's eye recollection of that earlier tour and his notes on the subject. All of which only served to shatter his theory of false walls, hidden spaces, and other tricks. The trouble was that every scrap of space occupied by the Temple could readily be accounted for. And with that discovery the idea of hidden apparatus went to the winds.

Turner was nonplussed, even more so when he came to compare notes with Joan. She had taken a different line of attack, working on the assumption that Vass perhaps used electrical effects to produce his tricks. She had probed every radio shop for a mile round the Temple to discover if any electrical interference had upset reception. In every case she had drawn blank. Still baffled, she questioned the Metropolitan

Electricity Board and in her capacity as newspaper reporter was given the information that Vass's Temple required no more electricity than an ordinary theatre. Blank—blank. Everywhere.

There remained only one course, to induce Vass to give a demonstration under conditions that would be humanly impossible, and thereon let the evidence rest. Turner made the decision, got into touch with Sir Gadsby Brough, and gained his immediate co-operation.

TO Turner's irritation their visit was delayed until seven-thirty in the evening through the absence of Joan at the local radio exhibition she was covering. When she did join Turner and Sir Gadsby outside the Temple, she was flushed with running and clutched an attaché case in her hand.

"Sorry," she panted, coming up. "I got delayed collecting these confounded gadgets."

Turner grunted and led the way into the Temple hall. The commissionaire ushered them into Vass's private office.

"Well, my friends, this is a surprise!" Vass exclaimed, rising from his desk amidst the mellow glow of the lamps. "Is there some little thing I can do for you?"

"Frankly, Vass, we're not here for pleasantries," snapped Brough. "You know I disbelieve you, and before I can be really convinced of your powers I demand certain evidence."

"Such as?" Vass murmured imperturbably.

"In about an hour you will be giving one of your theatre demonstrations. Right?"

"Perfectly."

"Very well. We demand that we examine the theatre before you start and seal it with private markings known only to ourselves. Then, if those markings are undisturbed at the end of your demonstration we will believe you."

The magician smiled.

"That is quite reasonable, Sir Gadsby," he said. "You will forgive me if I do not accompany you to the theatre? You know where it is, along the hall? Splendid!" He paused and dived into his desk. "Here," he said drily, "is sealing-wax and a reel of black cotton. Do whatever you wish, wherever you wish. I will continue with my work whilst you proceed with yours."

Brough slowly took the wax and cotton, disarmed as before by Vass's unexpected willingness. Turner glanced at Joan, then towards the slightly opened window of the office. . . .

"Come on," Brough growled. "We haven't much time," and he marched out purposefully.

As before, Brough, Turner, and Joan found only solid steel everywhere they examined, but none the less they smothered the stage drapings with secret black cottons, leaving a clear space only where Vass would have to walk during his manifestations. Then, out in the hall, they covered the ebony door with strings, cotton, special markings and seals, making absolutely certain that no mortal being could get into the theatre without their being aware of it before the demonstration began.

"That ought to fix it," Turner said, but he still looked a trifle uncertain. "If he does anything with all these traps I'll jump into the Thames."

He broke off, picked up the girl's attaché case, and glanced at her in wonderment.

"I say, Joan," he exclaimed. "What the dickens have you got in this thing? It weighs about a ton."

"Don't I know it!" she replied. "They're radio gadgets—samples from the Exhibition. I've got to do a write-up on them." She broke off, glancing at her watch. "Come on, we've got to move and tell Vass what we've done."

Vass, however, seemed in no way perturbed when they returned to his office.

"This is really all very foolish," he smiled. "However, if it satisfies you its object is achieved. . . . And now," he got to his feet, "I believe I hear the first of my audience arriving."

He went to the door and opened it, greeting the people as they entered, with special smiles for his wealthier clients. Brough, Turner, and Joan could do nothing but look on, counting the society and scientific notables who had fallen under the wizard's sway.

Little by little the hall began to fill up, and at length Vass moved along to the ebony doors and regarded the seals amusedly.

"We still have doubters," he explained cynically, and watched silently as the three examined their seals. They were quite undisturbed.

"May we go in now?" Vass asked drily, and a titter of amusement ran through the assembled audience.

"Not yet," Brough retorted. "I've the stage to examine yet."

He went inside the theatre, returning in a few minutes and pulling the ebony doors wide.

"All right," he growled. "The traps are all set, Vass. Go ahead."

"Thank you, Sir Gadsby," Vass smiled and led the way into the theatre.

The commissionaire hove in view and marshalled the people to their seats. Brough, Joan, and Turner took the front row, Turner still holding the girl's heavy case with obvious discomfort. Then he turned his attention to the stage as Vass quietly mounted it.

"A pity the powers of a Martian should be doubted," he said softly, smoothing slender hands down his red clothing. "For, you see——" His hand waved slowly and a massive box suddenly merged into sight. It burst open suddenly, transforming itself into a mass of flags.

Sir Gadsby leant forward so far that he nearly fell out of his chair. Turner drew a sharp breath; Joan's eyes opened to their fullest extent. The audience murmured softly to themselves.

THEN Vass went into another of his amazing demonstrations, if anything surpassing all previous efforts. The mystery girl appeared again and disappeared as strangely, to be followed by still more amazing manifestations.

Turner gave himself up to watching until the Indian scenes came into view, then his attention was distracted by a soft, remote buzzing noise. Nobody else in their rapt attention seemed to have noticed it; but he sensed it distinctly. In fact he seemed to feel it more than hear it.

Baffled, he glanced round, seeing only the draped walls and the intent faces; then he glanced down at the case on his lap. Beyond question that was the source of the strange sound! He half-opened his mouth to speak to Joan, saw her eagerly gazing at the stage so, instead, softly opened the case and peered inside. It was filled with odd electrical and radio gadgets, but one in particular was showing a little red spot-light whilst a delicate needle quivered over a graded disc in the fashion of a stop-watch. For a long time he studied it frowningly, then a slow gleam came into his eyes. Quietly he pressed the stud on the instrument and the buzzing stopped. The needle became rigid at a number on the dial.

Softly he closed the lid and looked up just in time to see Vass receiving his usual thunderous applause.

"Can't be any doubt about it, Dave; he's a genuine magician," Joan muttered.

Turner did not answer. Vass moved to descend from the stage, then stopped as Sir Gadsby leapt to his feet.

"One moment, Vass!" he shouted. "The final part of my test is to take place now! I believe in the possibility of trickery in this hall; why is it we always leave it before being permitted to re-enter? How do we know the stage does not revolve? Or even that you don't switch halls in some trick fashion?"

Vass smiled coldly.

"You do me an injustice, Sir Gadsby!" he retorted. "However, if that is how you feel, pray come up here before I move and satisfy yourself. All of you—you, Turner, and you, Miss Wyngate. Come along."

Brough led the advance, striding up on to the stage with the girl and Turner behind him. The audience watched in contemptuous silence: their faith in the Martian was complete by this time. Turner did not trouble to examine the draperies, and merely stood aside as Brough and the girl conducted the examination.

At last they turned. Brough gave an uncertain sort of smile and shrugged his fleshy shoulder.

"Well, you win, Vass," he said quietly. "Not a cotton is disturbed or a seal broken. I'll question you no more."

"You certainly took a lot of convincing," was Vass's curt response. Then he strode down from the platform to mingle with the people.

Gradually the crowd began to file out into the hall. A strained silence fell as

Brough, Turner, and the girl came into view.

"Sorry, Vass," Turner remarked quietly. "We should have known better Good-night."

Vass's huge head inclined a little and the three turned and moved away.

ONLY when they were on the steps did Turner suddenly emerge from his apparent mood of contrition.

He handed the surprised Joan her attaché case and said briefly:

"Don't let this bag out of your sight for a single instant and don't touch any of the gadgets inside. Go ahead with Sir Gadsby to the Corner House Café and wait for me. I'll be with you within an hour."

Joan stared amazedly.

"But, Dave, what on earth—?" she began.

"Don't ask questions—get going!" he breathed, then he raced to the bottom of the steps, swiftly climbed the railings encircling the building, and dropped into the narrow space between the railings and the building wall.

In three minutes he had made his way to where Vass's office window was situated. As he had noticed earlier in the evening, it was slightly open. It was only the work of a moment to swing it wide, slip into the dark office, and replace it in position. Softly he moved to the door, listening to the murmuring of voices. Vass was still in the hall with his devotees.

Turner was working to no haphazard plan. He had taken careful stock of the office furniture on his earlier visit, particularly the tall filing cabinet at an angle across one corner. He moved to it in the gloom, dropped gently down behind it, and waited . . . waited until he was stiff with cramp.

It seemed an eternity before at last the office door opened and the lights came on. Turner, crouching low and listening intently, heard the creak of a chair. There was an interval, then the door opened again. Immediately the voice of Vass spoke.

"What the devil went wrong to-night, Elsie? There was a power leak somewhere: I got several mild shocks."

Turner crouched in puzzled silence as a young girl's voice answered.

"Sorry, Dad, but it was quite impossible to tell you anything, of course. One of the insulator banks developed a fault. You'll need to fix it. We were losing power all the time."

Dad? Turner tensed, longing to look over the cabinet. Breathless, he listened for more, but all he heard was a grunt. Then a long sigh——

"Ah, that's better!" It was Vass's voice.

Turner wondered what was better, then listened keenly to a faint creaking noise, the sound of hollow footsteps.

"Well, come on, Elsie, we'll see what we can do," Vass remarked. "Where's Benson, by the way?"

"Locking up. I left him going round closing the windows. . . ."

The voice of the girl faded strangely and finally ceased. Her footfalls and those of Vass also expired mysteriously.

Gently, Turner began to rise up, and the first thing that met his eyes over the top of the cabinet was the surprising sight of a great forehead, topped with smooth black hair, standing on the desk!

Turner stood blinking at it, then recalled Vass's sigh of relief. So *that* was what had been better! Silently, he eased himself over the cabinet, and saw for the first time that a normally flawlessly-concealed section of the floor had slid smoothly aside. Metal steps led down into the gloom.

Swiftly he went to the false forehead and examined it. The thing was not metal nor rubber, it was actual flesh with an elastic consistency so identical with the real thing that no possible flaw could be detected in the matter of join. Synthetic flesh? So that was one of the magician's secrets!

Turner swung round, looked uneasily at the door, then backed to the trap-door. No sounds reached him from below. Gently he began to step down, taking care that his feet made no sound. As he went lower a faint reflection of light from somewhere below reached him.

He came at last within view of an enormous underground cellar, evidently stretching the entire length of the Temple base and probably much farther than that. In dazed astonishment he could do nothing but stare. He caught sight of Vass, amazingly different without his

false head—white-headed and active—moving about among enormous electrical machines, accompanied by the slim form of a girl. Here and there were men in blue overalls obeying the inaudible orders the scientist snapped out to them.

Turner recognised enormous turbo-generators and dynamos, electro-magnets, Coolidge tubes, banks of insulators, massive switchboards and, in particular, an incessant flooding stream of water racing through giant sluices. His eyes narrowed with thought.

"Of *course* the Temple's space is accounted for," he breathed. "The trouble was nobody thought of a basement like this. Or the water for power. . . ."

He smiled slowly, gave a final look round the wilderness of scientific achievement, then hastily retreated as the scientist and his daughter began to approach. Two minutes later he was through the office window and out into the night.

Rejoining Brough and Joan in the Corner House, Turner lost no time in recounting his experience.

"Then—then he *is* Abel Karton?" Joan asked breathlessly.

Turner nodded.

"No doubt of it now," he said. "The girl's his daughter—she looked to me like the one in the Grecian costume. However, that doesn't matter at the moment. The point is this, he's a scientist of the highest possible status, a literal wizard of electricity. But what he's driving at we still don't know. To-night, though, something happened that he didn't expect. There was an electricity escape, normally unnoticeable but detectable by instruments such as those in your attaché case, Joan. Hand it over, I've a few ideas to put forward. You, in particular, Sir Gadsby, can probably be the undoing of Karton, working from my basic plan. Now listen carefully. . . ."

Brough leaned forward over the table, his expressions changing to a final one of profound interest as he studied first the contents of the girl's case and then listened to Turner's scheme.

"Of course I can do it!" he breathed. "Nothing simpler! And if you're right Abel Karton will be trapped."

"It can't miss," whispered Joan exultantly. "Thank goodness I brought this case along with me instead of dropping it at the office on my way."

Turner smiled. "You can thank a leak in Karton's apparatus for the entire thing," he said quietly. "Otherwise I'm afraid we'd be his staunch devotees by now. Well, let's be moving."

## CHAPTER 6

### The Exposure of Abel Karton

DURING the ensuing week, Turner, Brough, and Joan were in almost daily contact, evolving their final plan for the downfall of the Red Magician. Turner was guarded in his hints to his editor, though he left him in little doubt that he intended to scoop the biggest story in hoax history before very long. Joan Wyngate told her editor the same thing, and it became an increasingly difficult problem for the girl and Turner to determine how their individual stories were both going to be scoops. One or the other would have to be first.

A good deal of time was spent by Turner in issuing invitations to the world's greatest scientists—many of them believers in Vass's powers—to be present at the magician's next demonstration. In consequence, by the time the following Wednesday evening came round, every possible space in the Temple was packed with notables.

The scientist, as big-headed and suave as ever in his rôle of Vass, regarded the invasion with some delight, not entirely divorced from bewilderment, until Turner explained that he had felt it his duty to make amends for his previous doubts.

"Exactly that," beamed Brough, disarmingly pleasant for once.

"I'm going to see that my paper gives you the space you deserve, too," Joan put in, holding her attaché case firmly until Turner took it from her.

"Well, at least I am assured of complete co-operation this time," the wizard smiled, halting at the theatre doors. "Even so, though, I'd be glad if you would enter and examine the stage as usual."

The audience filed in, Turner, Joan,

and Brough taking their former places on the front row. The stage having been proven solid, Vass quietly mounted it. As he did so, Turner idly opened the lid of his attaché case, shifted something inside, and closed it again. A vague, hardly detectable humming note began to proceed from it.

"Now, to begin," Vass smiled. "Suppose we have the materialisation of a woman from empty air? Like this——" His slender hand waved quickly—but nothing happened! A slight frown crossed his face and he rapped out a sharp command. Still the stage remained empty.

"Really, I must apologise," he said quickly, advancing. "For some reason I seem rather unable to concentrate tonight. I cannot understand it, in view of the entire accord of my audience. I will try again."

He made a pass through the air and waited for something to appear. Nobody knew what. Nor did anybody learn, for nothing came into view!

A stony silence settled on the audience. The sea of faces stared at the stage. Vass coughed a little and looked around him anxiously; then he stood erect and snapped.

"Woman—appear! I command you to appear!" His vast forehead crinkled in a concentrative effort. It was of no avail. A low and uneasy muttering was creeping over the audience.

Vass swung round, clearly alarmed. His face was strained and drawn, his eyes staring to left and right. Desperately he flung up his hand to quell the rising uproar.

"Wait, I implore you!" he shouted hoarsely. "It is not always possible to produce mind creations. There are thousands of little things to take into account, and——".

Sir Gadsby Brough got to his feet, grinning in malicious triumph.

"We don't want excuses, Vass, we want effects!" he shouted. "You have demonstrated before with dozens of sceptical people present. Now with everybody believing in you, you can't possibly fail! Get on with it!"

"Hear, hear! Come on, Vass—let's have it!"

"Per—perhaps a view of Egypt . . ." Vass stammered and frantically waved his arms at the black draperies. The view of Egypt failed to materialise. Stunned, he fell back, then stumbled round to face the shouting people.

"Come on, man, what's the matter with you!" came a voice from the audience.

"Let's get started!" called another.

Turner glanced round on the gesticulating men and women, gently put his attaché case on his chair, and then raced up on to the platform. Fiercely he held up his hands for silence and by degrees the roar began to die away.

"Wait!" he shouted. "Wait a minute! Hear what I've got to say!"

"What do you want up here?" demanded the scientist bitterly.

"You'll find out quick enough." Turner waited for complete silence, then said quietly: "I think it's about time Abel Karton stopped play-acting and came from behind his disguise!"

At the same instant he swung round and knocked the scientist's false head a couple of yards away with one swing of his arm. Karton stood gulping with amazement, a mass of white hair framing his haggard, perspiring face.

"You—you can't mean——" he began hoarsely; then his words were drowned by the sudden uproar from the audience. Scientists, psychologists, experts in every branch, ordinary men and women, stood shoulder to shoulder and yelled out their contempt.

"Faker! Damned faker!"

"He isn't a Martian at all!"

"Abel Karton—the scientist who went to France!"

AGAIN Turner waved his hands, imposing a brief lull in the storm.

"Karton is a faker, yes," he admitted in a grave voice. "We know now that all his tricks are electrical, though so far we have no explanation for them. But we do know this much: on the occasion of his last demonstration there was an electrical leak in his apparatus, which lies directly under this theatre and stage. Quite by chance Miss Wyngate of the *Clarion* had some electrical accessories with her from a radio exhibition. One of them was a wavelength stop-watch, used in testing radio wavelengths and electrical frequencies. It reacted under

the influence of the electric escape and I pressed the stud which caused it absolutely to identify the periodicity and wavelength of the energy being used by Karton here. The rest was simple.

"From that basis of wavelength it was only necessary to work out an interference wave, a small amount of energy being quite sufficient to upset the balance of the electricity used by Karton. Sir Gadsby Brough worked it out, and in that attaché case on my chair is the small apparatus which did the trick—is still doing it, in fact. It stopped Karton's electrical effects from working by issuing a heterodyning frequency, just as radio stations may be rendered unintelligible by specially arranged interference on the same wave. Outside the building no electrical escape is possible, because the walls are insulated. Even the electrical escape at that last demonstration would be undetectable outside the Temple."

Turner stopped and turned to Karton, who had stood listening in dazed silence.

"You—you found *that* out?" he breathed. "But I——"

He broke off in visible terror at the angry surging of the people towards him. The knowledge of his trickery was sufficient to inflame his former devotees into an ugly mood. Men and women started moving ominously towards the platform, only to swing round as the ebony doors flew open violently.

"Police!" somebody yelled. "Police! Take it easy!"

The swirling, angry scene became somewhat calmer as a sergeant and constables strode grimly into the theatre. With them was a young girl in flimsy Grecian attire, a coat thrown hastily over her shoulders. Behind her, firmly held, stood half a dozen men in overalls, sullen-faced and bitter.

"Dad!" the girl cried hoarsely, stopping in front of the stage. "What does it all mean? What's happened?"

"I told the police to clean up your cellar then come on here," Turner explained quietly. "Best way to protect you, Karton," he added, and the scientist nodded very slowly.

"You expose me in one breath and protect me in the next," he murmured, slowly regaining his composure. He turned to the police. "I'll come along, gentlemen. Come, Elsie, we may as well get it over."

Quietly he left the platform and joined his daughter. Turner took Joan's arm and made a motion to Brough. Silently, as the threatening people milled around them, they passed down the centre aisle and out through the hall to the street.

The news had travelled fast, and people were already swarming round the Temple in their hundreds, held back by a strong cordon of police. Looking neither left nor right, Karton took his daughter's arm and followed implicitly the directions of the stern-faced acting-sergeant as he directed him towards a waiting car.

## CHAPTER 7

### Such Powers are Dangerous

HALF an hour later the entire party was seated in the private office of Detective-Inspector Willis at New Scotland Yard. Willis, his face thrown into relief by his desk light, regarded the silent, white-haired scientist steadily.

"You are aware, Professor Karton, that your arrest is purely based on the charge of false representation?" he asked slowly. "By that false representation you obtained money, a great fortune, and hoaxed London and the world into thinking you were a visitor from another planet."

Karton shrugged. "I have a fancy, my dear Inspector, that those charges will be very difficult to substantiate in a court of law. I have been careful never to take money without giving full value for it. I have never done anybody any harm and never intended to. My whole scheme, in fact, was a carefully built-up plan to justify myself in the eyes of the world."

"You mean you wish to make a confession?" the inspector inquired.

"I should prefer to call it a statement," Karton corrected. "In any case I had intended to reveal my actual motives before too long a time. Turner here forestalled me, so I suppose there's nothing more to hide. Yes; I'll explain."

"Right!" Willis turned aside to his clerk. "Take this down, Conroy."

Conroy was not the only one who prepared his notebook. Both Joan and Turner sat ready with pencils poised.

"Some years ago," Karton said quietly, "I tried to interest the Government, at the height of their rearmament programme, in various inventions of a scientific nature which I knew would be invaluable to this country and, indeed, absolute saviours in time of emergency. I am not blaming the laudable officials behind the campaign, but I do blame the dozens of people who hindered my efforts to get at the fountain-heads, who as good as threw me out of their offices and my inventions with me. To them it appeared I was just another old fool of a scientist."

Karton paused, compressing his lips bitterly. Slowly, he resumed;

"I could, of course, have perhaps got better treatment from a foreign power, but I happen to be a patriot. That would not do. I knew the public would want my devices if they only knew what they could do. How could I show them? The harmful way of demonstration meant a one-man war in which I would be the absolute master. That did not appeal to me. I did not want to hurt anybody. Instead, I gave a statement to the Press—to Miss Wyngate here, in fact—of the qualities of my inventions, hoping it would be seen by some powerful faction and my case taken up. Nothing happened. Embittered with my own country, I then left my Littlehampton home for the Continent and for several months worked out a scheme to attract the public and demonstrate to them my inventions at the same time. Out of my plans grew the idea of Solivus Vass, the Martian magician. If I could once capture the public interest, get the whole country—the World, if need be—to listen to me, and also could prove to them so-called miracles in the interval, they would *demand* that my powers and inventions be used for their own safety in case of attack.

"With that idea in mind, Elsie and I dropped from the sight of the world and returned to Sussex. We built a small isolated house with an underground laboratory on the Downs and from that point I started my scheme."

"ONE moment," the Inspector broke in. "Do I understand that workmen built this house of yours? Were you not afraid of them giving you away?"

Karton smiled faintly. "I laid my plans well, Inspector. Every man who ever worked for me is a fugitive from justice, as much in my hands as I was in his. You will find that my assistants from the Temple basement all have police records. It was not easy to find six wanted men, but I managed it, with patience."

"I see. And then?"

"Then I made myself up as a Martian, adding padding to my chest and back to produce the right effect and modelled a large head from synthetic flesh. Cellular material, the basic compounds of flesh and blood, is not difficult to create. The hard part comes when you try to make this synthetic material live! I haven't managed that yet. Dead flesh, chemically treated to prevent deterioration, produced for me a perfect false head without a join. Then came the space-ship."

Karton smiled a little amusedly at the recollection.

"The whole confounding point was the seamless nature of the globe," he murmured. "It cannot fly, and never could. The interior machinery is so much bogus material, effective to look at but useless in application. Engineers could not fathom it because it was not *intended* to be fathomed. Its very haphazard nature made it a mystery. It was simply a straightforward bluff—and a good one! In its complete state it certainly represented a globe too heavy to be moved by ordinary methods, but, in fact, it was originally two hemispheres which were separately brought by night on wagons to the Downs by my assistants, from my home about three miles away. The two hemispheres were easily moveable by themselves.

"You see, the two hemispheres were welded together by one of my scientific devices, far superior and quicker than any known welding apparatus to-day. Oxy-acetylene welders, for instance, fuse two metals into one another, but they leave a distinct join. My device, which generates an electro-magnetic agitation, shifts the molecular paths of the two metals concerned and flows one into the other in a flawless whole, as perfectly as water added to water leaves no trace

of entry. The molecules are combined so perfectly that two separate pieces of metal flow into a smooth oneness.

"Once one hemisphere had been brought to the appointed spot the wagon returned for the so-called driving mechanisms. They were placed inside the hemisphere, the other half was welded on in perhaps half an hour, and there it was . . . a perfect globe."

"AND you were not afraid of being caught in the act?" asked Turner, looking up from his notes.

"There are very few people on the Downs at two-thirty in the morning," Karton answered drily. "Of course, we removed all traces made by my lorries on the ground, and returned them to the private underground garage adjoining my home."

"And the Indian rope trick?" Willis asked pensively.

"That involved technical science of a higher order," Karton replied. "However, I'll try and make it clear. I have, in truth, discovered the secret of invisibility, a first-class secret which the Government refused to credit. You may be aware that all perception is based on light waves. Reflection, that is. For instance, I see you, Inspector, because you are reflecting light waves to me: in truth you are a collection of molecules, so arranged that the light waves falling upon you produce what is called a man. So it is with everything, from cabbages to kings.

"Now, light waves travel in straight lines. They can be refracted by water, can be completely stopped by an opaque body, and can be polarised by tourmaline crystals, crystalline quartz, and other substances which came under the technical heading of stereoisomers, of which the well-known Nicol prism is one of the best examples.

"I have studied all fields of light, and arrived at the conclusion now accepted by most scientists that light is only a comparatively narrow band in the middle portion of the great range of electric waves stretching from those used in radio—which may have a wavelength of several miles—or to X-rays with waves of only a hundredth millionth of an inch. Light is purely electrical and, as Faraday showed, the plane of polarised light may be rotated by passage through a block of glass placed in a magnetic field, the rotation being reversed when the field is reversed. So, then, light is actually as easy to control as all other electrical fields once the right proportion of counteractive frequency is discovered. By counteractive, I mean a magnetism reacting directly on the basic electricity of light, able to move its waves at will as an ordinary magnet moves a piece of steel. . . . You understand?"

"Go on," muttered Willis, his brows down.

"By means of this counteractive magnetism the light from any object can be diverted completely. And light definitely has mass that can be turned aside—the fact is plainly evident in the stress fields existing around the sun, wherein the light of the stars is visibly bent and diverted by his enormous gravity. On a tiny scale my idea is similar. My first test with heavy apparatus revealed that any object in the range of my magnetism could be made instantly or gradually invisible, the power being graded to encompass either near or far objects. In my rope trick, of course, I took good care to limit the range to myself only.

"Finally, I got my apparatus into small and compact form, and devised a battery system which fitted inside the humps on my back and chest, the control wires passing down inside my sleeves and the switches being concealed under a synthetic flesh cap in my palms. These batteries, given power, discharged their particular output around my body, and at will rendered me gradually invisible how and when I desired it. The charge lasts for perhaps fourteen hours at a stretch.

"My rope trick was slightly involved, but effective. I needed an assistant invisible like myself. The rest of the explanation lay in Nelson's Column. My assistant—Benson, the commissionaire at the Temple—using a similar apparatus to mine, came to London from the Sussex laboratory early in the morning. Naturally, because he was invisible and because there are few people around the Square at that hour of morning, he had little difficulty in climbing to the summit of Nelson's Column the night before I was to

demonstrate. A piece of rope looped round the Column, a backwards angle of the body, and spiked boots were all he needed to reach the summit of the Column. Down below—and this explains the need for a quiet period—he had left a long length of steel cable and a stout, small steel girder. These he hauled after him to the summit of the Column.

"Naturally, the girder and cable were supplied with batteries and rendered invisible also, as the current passed perfectly through the metal. Benson had simply to secure the girder—just light enough for a strong man to handle with ease—to the top of the Column—the statue itself, in fact—and allow the cable with its hook on the end to hang down into the Square about eighteen feet from the ground and thrust some four feet or so from the Column itself by the girder's length. In this way nobody could possibly run into anything, the invisible hook being far above their heads. Benson, of course, remained at the Column summit entirely invisible.

"I appeared in the Square invisibly and made myself suddenly visible, to the great amazement of Turner and several others. I tossed my rope experimentally in the air, to find the hook—knowing, of course, its approximate position. The sharp spike of the hook caught the loop of my silk rope and held it securely.

I climbed up, made myself gradually invisible as I seized the unseen cable, and hauled myself out of sight. Then, as I whipped the rope up into my hand, it naturally came under the influence of the power around me and vanished from sight.

"I clung to the cable until there was a clear space below me, then lowered myself to the ground and ran out of the Square. Another assistant had a car awaiting me. He rushed me to Victoria Station at top speed, though the crowd delayed me somewhat. Still invisible and dodging everybody possible—for of course I was solid enough had anybody run into me—I got on to the roof of Victoria Station entrance and made myself visible. Then I faded out again and returned home to Sussex to await results. Benson, of course, returned the moment it was safe for him to do so."

"Well, I'm damned!" breathed Willis blankly. "You mean to tell me you have things like this and the Government won't listen to you?"

"They probably will when this report is published," Karton murmured speculatively; then he pondered for a moment. "Oh yes—the fire!" he smiled. "I started it in the first place before beginning my speech in the Square. In the basement of that old building I placed four crystal globes, heat-proof and timed to explode when the fire got under way. I had an exact knowledge of the time to elapse, of course. Once they did explode they released an extremely powerful gas, basically carbon dioxide—used, of course, in foam extinguishers—together with a heavy gas that absorbs oxygen with its own molecules and therefore stops it getting at the burning material wherever the gas permeates. Four of those globes, as I'd calculated, were quite sufficient to kill the fire in record time."

## CHAPTER 8

### Secrets of the Red Magician

THERE was a brief silence in the office, the silence of stunned amazement; then Inspector Willis spoke.

"It's incredible," he breathed. "Incredible, I mean, that a man of your genius should use showmanship to advertise his powers when you could have controlled the world with invisibility alone."

"By terrorism and power?" Karton shook his white head. "No, no, Inspector, I want the people to enjoy their security, not to live in terror of a phantom."

"And your incredible discoveries over a distance?" Turner asked quickly. "How the devil did you get to places where nobody else has ever been?"

"By television," Karton replied, "and I mean *television*, not the half-hearted affair of scanning discs we use in ordinary life. My television is a supreme achievement. Until I moved to the Temple, I used it in my Sussex laboratory, of course. For my form of television no transmitter is necessary. Examination of my apparatus will reveal that it generates a carrier wave which pierces

all solid matter in the fashion of an X-ray. The earth itself is no bar to it, hence the range of my straight-line carrier wave is not limited to horizon distance, but moves to any part of Earth through the earth itself. Its only handicap is a falling-back effect of things taking place almost directly beneath us in, say, Australia.

"Light waves react on this carrier wave only at its *extremity*, just as—to use a crude analogy—only the extreme end of a walking stick touches the ground. The light waves reacting on the extremity of the wave, and no others, pass back along the wave to the source in the form of vibration and are there converted back into the original light-wave formation, as simply as a radio converts the original transmission into sound or vision. Since, then, the impression only occurs at the wave's *extremity*—the remainder of it passing through all solid matter, of course—it is only necessary to compute from a scale map the exact carrier wavelength required in order to extend it to any particular place, be it London or Australia. Thus, when people gave me adequate descriptions of what they wanted and full particulars, I was able, more often than not, to locate the spot. Nothing barred me, not even the deepest sea.

"On various occasions, particularly in the Square, my daughter was working the apparatus, choosing far-distant events. A short-wave radio of minute size was concealed in the hump on my back, its tiny earphone imbedded in my ear and connected to my back with concealed wire. The particular wavelength, of course, could only work with the apparatus we were using. Therefore, as she saw interesting events from the televisor in Sussex she relayed them literally to my ear by the spoken word—told me everything she saw. In consequence, my predictions seemed little short of uncanny because they were relayed at the speed of light. Events which normal telegraph and radio could not hear about until some time afterwards were rendered immediately available to me."

ONCE again an amazed silence fell on the little office. Then Sir Gadsby Brough spoke.

"So far, Professor Karton, I have followed you with profound interest. Much that you have explained, based definitely on accurate basic scientific facts as we know them to-day, I can readily understand. But there's still that damned Temple! How in heavens' name *did* you do all those things on a solid steel stage?"

"That explanation brings me to my last invention, Sir Gadsby. The matter-through-matter machinery. You would say, perhaps, that it is impossible for two solids to occupy the same area at the same time, covering the same area, that is?"

"Definitely!"

"Because it would involve an explosion?"

"Naturally it would. Why? Surely you don't disagree with that?"

"I will let the Temple's stage be proof of that," Karton told him. "Matter, as you surely know, is *not* solid. It is mainly made up of empty space, a mass of atoms and molecules in widely separated paths. The electrons of the atoms are, naturally, full of emptiness. But, supposing these haphazard atoms whose wild scurrying produces a piece of matter could be made to co-ordinate into a fixed path?"

"You mean force the atoms into fixed positions?" Brough hazarded.

"Exactly so. If that were so, another body could then pass smoothly through the space thus created with no more difficulty than passing through, say, a heavy wall of slush. There would be some drag from stray atoms, but in the main, with the greater bulk of the solid's atoms marshalled into order, one solid could pass through another. That is what I did. My electrical machinery consists mainly of enormously powerful electro-magnets which force the poles of the molecules in the walls at the back of the stage and along the floor in a certain area, to face in *one fixed direction*—instead of flying in all directions as they normally do. The result is that anything can pass through the walls or special floor area while the influence is on.

"Nearly all my illusions were done that way. My daughter and the mechanics in the room below could hear all my commands by a concealed micro-

phone in the theatre roof. My two metal globes that went through each other were of course a small-scale example of matter through matter by a small device in my clothing issuing the desired magnetism. The rest of the tricks were ordinary stage illusions with trick apparatus, all of which passed through wall or floor at the end of the performance. Behind the wall was a foot-wide partition, which, of course, was not enough to upset the measurements of the building in case of examination. Below the stage was infinite cellar space and machinery in oil baths to hide all trace of noise. Every bit of machinery was made by different engineering firms, none of them knowing the others' business so that I could not be given away."

"I recall," said Sir Gadsby slowly, "that your daughter did a floating act. How was that managed?"

"Semi-neutralisation of gravitation, which one day I hope to use for the purposes of space conquest. At present it is only elementary and uncertain. Originally, my daughter came up through the special floor area—matter through matter. In the basement below, directly beneath where she stood, powerful force fields were at work, strong enough to briefly and slightly straighten the curvature of space that forms the so-called gravitation of any body. It could not last long, but long enough to cut out gravity from beneath her for a little while. She immediately rose to the next nearest source of attraction, the roof, and remained poised between roof and floor. The idea presents a good illusion, but requires perfection before it can be used with a view to space travel. As to the slow fadings, those were merely my invisibility batteries at work, of course."

"And the scenes of other lands?" Joan enquired.

"Television reflected on to an immense screen which showed easily through the almost transparent walls. The instant the show was over the power cut out and the walls returned to their former constitution of disordered atoms, as did the floor. Naturally, all your seals and cottons made no difference. Anything near the walls came under the influence of the current, curtains as well."

"Am I right in assuming that you used the Thames for power?" Turner asked quietly.

Karton nodded slowly. "It was a simple matter with the scientific apparatus at my disposal to drill the necessary sluices from a point far below my basement. We made tunnels which carried us well under the level of the Underground to the Thames Embankment, under the Thames itself, the tunnel being horseshoe shaped, so that the water, by means of special traps, was both received and returned, but in the process ran my turbo-generators and created all the free power I needed."

Karton stopped with a quiet shrug.

"Well, I think that's all," he said quietly. "I've tried to prove that I can help the country with my scientific ideas and, at the same time, recoup myself for the money I've spent. To a certain extent I have succeeded in the latter objective——"

"And unless I'm utterly mistaken, you will in your other objectives," answered Willis quietly. "Such genius as yours, Professor, is above——"

He broke off as Joan and Turner folded their notebooks and rose to their feet.

"Sorry, but we've got to rush if this is going to make the first edition," Turner explained and, catching the girl by the arm, he hastened her from the office.

ON the steps of the great building they paused for a moment and looked at one another.

"What do you think he'll get?" Joan asked quickly.

"Honours, I should hope. The public will demand that his inventions be used for the nation's benefit after the story we'll give them. The Martian gag will be finished with, of course, but——"

"And which of us gets the story?" the girl interrupted.

"What story?"

"I mean this scoop. We've both worked for it. . . ."

"Oh, that. Well——" Turner pulled a special edition of the *Arrow* from his pocket, handed it over. In blank astonishment Joan stared at the flaring headlines:

## ABEL KARTON—THE RED MAGICIAN

### Television, Invisibility, and Other Great Secrets Solved

And underneath ran column after column of the story.

"Dave Turner!" she gasped. "You've stolen a march on me! You put this in a special edition of the *Arrow* for to-night instead of the first one to-morrow! I didn't see this issue on the street."

"It wasn't on the street until we were in the Temple," he said, grinning. "Mine's an advance copy."

"But how could you *know?*"

"I didn't, but it was too big a chance to miss. Television and invisibility were the only possible explanations, and Sir Gadsby gave me a good idea of what to expect. After all, the *Arrow* comes before the *Clarion*, you know. Unless——" He stopped, and smiled.

"Unless what?" she demanded.

"Unless you'd like to marry the *Arrow's* star reporter and have all the scoops in the family. After all, I can always learn that conjuring trick of Karton's in producing a five-pound note from a cigarette-lighter if we get hard up——"

"Marry you!" she cried indignantly. "With all the notes I've made to-night? With such a story on hand?"

"Write it up if you like. I've still got to make my story check with Karton's real confession. But I still have the scoop."

"Only *this* one!" she retorted malevolently, and sailed off down the steps. . . .

A MONTH later Joan took her revenge by scooping the Law's verdict on Abel Karton. Far from condemning him, the Law stopped the case and rebuked the Public Prosecutor for his ill-founded charges. Hurriedly, the Government, urged on by public demand, placed Abel Karton at the head of the country's scientific researches. Television, invisibility, and matter control were secrets that could—and would—make Britain impregnable. The Red Temple remained, headquarters of the cleverest scientist the age had produced.

Turner never could fathom how Joan scooped him on that verdict. She only told him when she had changed her mind and married him. She hadn't known the verdict at all.

"But you see, Dave, it was too obvious to miss," she said sweetly. "You guessed Karton's confession because it was scientific; I guessed the verdict and wrote it before it was announced because I know human nature. So now we're quits."

To that Turner was forced to agree—but one day he's going to find time to ask Karton how the devil he did that trick with the petrol lighter. All it does for the Turner family is light cigarettes.

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## ——And Now Read This:

### INVISIBLE MAN

"Smiling, mysterious little Stephen Pribil, is coming to London. Pribil, a Hungarian, one of the world's cleverest electrical engineers, has been conducting secret experiments in Budapest.

"He is already well known as the 'invisible man.' Using his specially designed apparatus, he can make anything disappear. His favourite trick is to seat a man on a chair and, before a small private audience, make the man slowly fade away, while the chair remains.

"As I was once treated in this way I can testify that one doesn't actually disappear, though one *does* become invisible."

*An Extract from "To-day" (May 28, 1938).*

### WEAPONS OF WAR

"Some of our greatest scientists are now helping in the task of air defence and some of their very latest discoveries are already coming into use.

"An enemy may expect to encounter some formidable and perhaps unexpected forms of defence."

*—Sir Thomas Inskip, Minister for Co-ordination of Defence, in a recent broadcast speech.*

# SON OF SPACE

## Watched by the Horrified Eyes of all the World, A Lonely Son Struggled in Space to Escape the Grave which had Opened in the Black Infinitudes above Him

### By FRANCIS H. SIBSON

AS all the world knows, the Anglo-American Consolidated Airways have a through-mail service to Africa, India, and Australia; and it is of course, a "circle" run. The three-hundred-foot fantail-ejector-jet monoplane *Barberton* was on the counter-clockwise schedule. Having had her night's rest at the Cape, she would be resuming her outward voyage in less than an hour.

In the captain's day-cabin on "C" deck sat the Right Honourable Sir John Cummings, the well-known South African statesman. He was looking about him with surprised appreciation.

"Homelike, I must say, Captain Welles," he commented. He was a stocky man in the middle fifties, quite undistinguished-looking to the casual glance. The real power of him was with that bald bullet-head of his.

The captain smiled, with his usual urbanity. "You haven't sailed in one o' these before, have you, Sir John?"

"Never needed to. If it wasn't for the Canberra Conference I shouldn't be sailing now. Last time I went overseas was in a steam-liner to Southampton—and wasn't I seasick! Twelve years ago that was. I've only flown by inland feeder-services so far. D'you think they'll ever have jet-propulsion there?"

"Too heavy for small craft, at their relatively slow speeds, too. Power-weight ratio defeats 'em. . . . But if this fellow Jamieson's direct repulsion experiments are a success they'll be able to use any power they fancy—and incidentally *we'll* be for the scrap-heap. Lift anything with direct repulse—if it comes off. Kind of a static charge in the hull, I believe."

"What's he doing now?" asked Sir John. "I haven't been following the thing lately—too busy getting ready for Canberra."

"He's got his *Asteroid* somewhere in the Central Australian desert, testing—'cording to the rumours. We'll switch in and listen presently. All that territory must be a perfect jam of government observers and press and private craft by now, all out looking for him. Reuter's and a few others have got televisors, so if they do pick him up at all we'll see as well as hear. . . . By Gad, he'll rank with Copernicus and Newton if he makes it!"

"Don't see why he shouldn't." Sir John agreed. "If he's really found out what gravity actually is, *well* . . .! But a lot of people seem to reckon he's an imposter, like that Italian death-ray fellow back in the 'twenties. They say all his secrecy and hatred of publicity are just a pose to make us bite the better. I don't think so myself," he added, noticing the captain's eye. "I only think he's a bit—er—abnormal. Lots of scientists are."

"If you don't bang the big drum," commented Welles forthrightly, "people generally do think there must be something queer about you."

He glanced at his watch and rose.

"Time I began to see about things," he said. "Thought so."

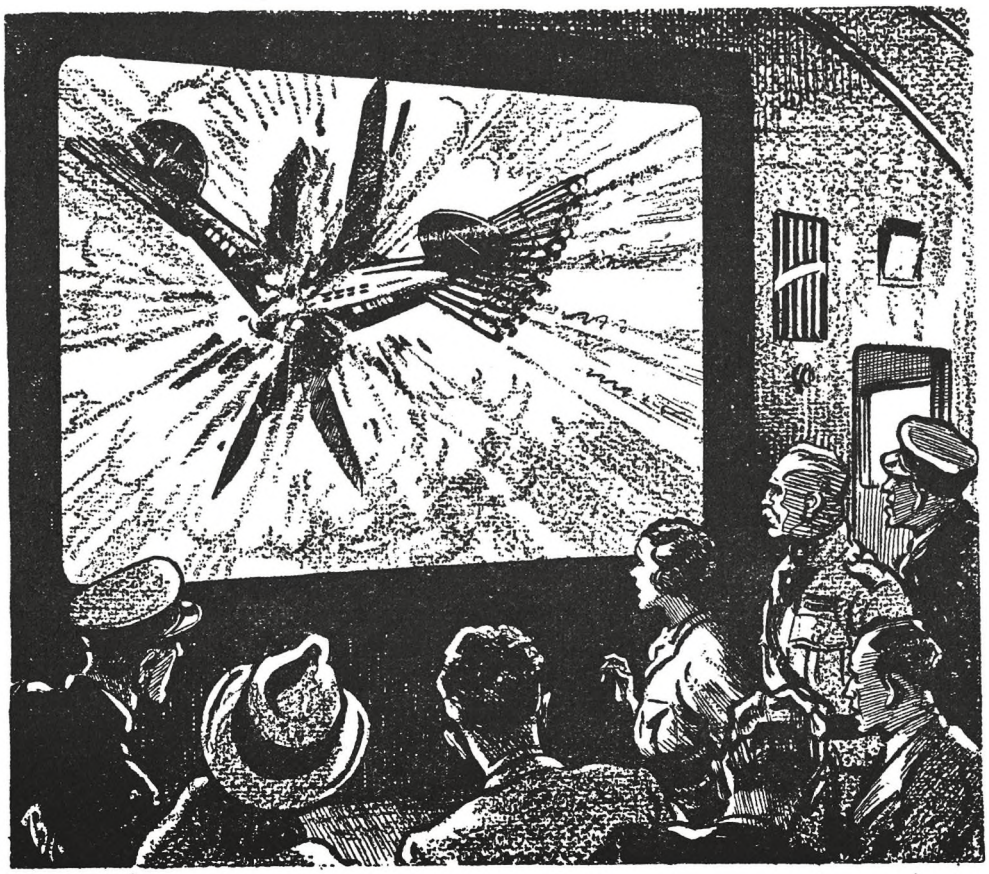
There had come a quiet buzzing from his telephone. "Hullo?" he enquired.

"All passengers embarked and hatches sealed, sir," reported his chief pilot. "I've told the engine-room."

"Thank you, Mr. Beaton. Tell Mr. Jarvis he can try jets and planes as soon as he's ready."

"Now, sir; I've got to go up to the control-cabin," the captain told his distinguished and therefore favoured passenger. "I'll send along for you as soon as you can come up. In the meantime you'll get a good view of things from 'B' deck."

SIR John climbed the broad central stairway to "B" deck, where he ensconced himself in a basket-chair at one of the big, reinforced scuttles on the starboard side, just above the wing case.



*Seen on that artificial screen of unreal vision, the disaster had a passionless precision*

A bell rang: the first assistant engineer was reporting working-pressure in the two chambers. Jarvis opened wide his throttles.

There was an almost sentient note, as of human and childlike joy, in the swelling yell that burst out then from the flattened fantail of her. She skimmed, rose, flew; slanted up gently, steeply, more steeply—but already with such pace that Sir John felt no discomfort at the tilt. He was pressed firmly but not unpleasantly into the back of the fixed chair—the pull of gravity was lost in the greater stress of body-inertia being overcome. It was the world which seemed a-tilt.

Except for the faintest stir of draught along the deck from the gas-warmed ventilators forward, there was nothing to give any sensation of speed once that inertia was lost. The shriek of the jets in the fantail was dulled by the intervening steel, sound-insulated, of the jetliner's hermetically-sealed hull.

The Cape Peninsula fled diagonally from under them; False Bay followed; Cape Point was a purple hummock, fine on the starboard quarter, and was gone. In a minute Cape Aghulas was fading to port. Like the ending of a film, evanescent and unreal, South Africa ceased to be. The *Barberton* hung in a vault of blue, a vault that stretched away to ever-widening bounds of air-veiled dimness as she climbed—a vault with a moving liquid floor of deeper blue, unrolling from the infinity ahead to spin beneath and be swallowed at last by the infinity astern.

The ship went snoring up on a long, easy slant. Cummings saw that the wing-spread had already been partially reduced; she was working up to full speed. Then he felt a touch on his shoulder. A uniformed messenger stood beside his chair.

" Captain's compliments and will you step along now, sir ? "

He rose and followed.

" Ah, here you are," said Captain Welles. He stood in the centre of the bow-control-cabin, smoking a cigarette. The chief pilot had just taken over from him and now sat in the watch-chair facing the bow-scuttle. There was very little noise up here. The main sound-waves from the jets were carried out aft and astern by their own gale and the pace it gave her ; she outran sound now ; only such vibrations as were communicated to and through the hull and tunnel could be heard. There was a dull booming from the planes and a whistling note of suction from underfoot, where the tunnel opened into the nose ; it was drawing in such a hurricane by now that for many cubic yards in front of her the atmosphere was practically a vacuum.

" Reduces head-resistance," the captain explained. " She sucks herself along, too, you know. The jets in the tunnel induce an air current right through, and it reinforces the power of the jet gases themselves at the fantail. More volume more push—at the expense of speed, of course ; we can't lift ourselves by our own bootlaces yet. But the bow-suction offsets that a bit, as I said ; and we want the extra power gained to drive her against the lift-resistance of the planes. Like gearing down a machine, or a block and tackle, you know. And we work practically everything off that tunnel airstream, too. The wing-spread you've seen. The dynamos for wireless and lighting and auxiliaries work off an airscrew in the tunnel. We eject all waste-matter into the fantail—and the heat of the blast turns it to gas before it's out of it. Nothing *we* drop's ever likely to give anyone a headache down under. And we ventilate and keep up breathing-pressure in the hull by the air scoop method exhausting aft. That's maybe the most important job of the lot. Take a look at the sky and you'll see why ! "

Cummings looked up through the overhead scuttles. Despite a sun-blaze more ardent than anything he had ever seen from the ground—a blaze that poured in through the scuttles in slanting search-beams of hot white light—the stars swam clear-shining in a thinning veil of air through whose coldly-velvet blue was already showing the black of the empty void. Of course he had read and been told of it many times ; but at the actual sight he caught his breath in awe.

" How high are we now, then ? " he asked.

" Just past the ten-mile mark," Welles told him. " If you fell out now you'd burst like a toy balloon—and the bits would be frozen hard as steel before they'd been dropping half a minute. Fellow did it once—messy way to suicide, I should think, but pretty quick. Broke a scuttle and out he went. That was in the *Indiana*—trans-Pacific service, some years ago. They had a job to get that scuttle blocked up, too, before they lost all their air. Gasping like a lot of fish, they were. Suicides never think of the bother they make for other people. You'd want dynamite to break one of our scuttles to-day, though."

Sir John shuddered and turned the conversation back again. Pointing at the calm stars, he said : " And they've come out while I was on my way from " B " deck ? Say two minutes ? The sky looked normal enough when I left. That's quick climbing ! "

" Two minutes, yes. We can climb five miles in that time. Well, well, let's go and see if there's anything coming through about Jamieson."

SPINNING across the meridians like a fire-feathered arrow of haste, the *Barberton* was well into her stride by now. The two went aft to the music-room (which was also the ship's dancing-floor), where practically all the passengers, together with most of the officers off duty, had already congregated to watch the hunt, three thousand miles away, for the modestly elusive scientist and his *Asteroid*.

For some time Reuter's man had been broadcasting his impressions.

" We are now rising," the boomingly unnatural voice was saying as the two men entered, " to sweep the horizon once more for that tiny, twinkling, floating needle of stainless steel wherein sits the dauntless but misanthropic experimenter to whom we would all do honour. There are several other jet-'planes and a

host of smaller propeller-driven craft about—all on a similar errand. It will not be easy, should he actually be here, to distinguish him amid such a concourse. Look ! "

A square of cloudless but dusty blue—a desert-sky of hot afternoon—flashed upon the screen. Within it danced a medley of winged specks, like motes in a sun-shaft. Suddenly they were occulted, the whole square was filled, by the swift-passing shape of a jet-'plane, long and silvery, her wings nearly full-spread as she cruised, a lazy fan of pale-lit smoke shooting flatly from her stern. On her flank, in fifteen-foot letters above an American identity mark, was painted the word " Radiopublicorp." One of the searching news-purveyors.

With a flicker of the transmitting-visor the blue of the sky was replaced by the far yellow-grey of the land ; then, as it moved to the horizontal again the horizon showed, aslant and blurred by heat-haze, snapped sharply level and began to spin sideways as the visor on Reuter's 'plane swung through a complete circle. The screen went black again.

" Drawn blank so far," said somebody among the passengers. " Dancing this evening ? "

A girl's voice answered with an emphatic affirmative.

" There seems to be a stir of machines over to the north-east," said Reuter, with a tinge of amplied excitement in his gargantuan tones. " We are turning in that direction and shall investigate at full speed. They may have seen something. . . . Yes, the chase is on."

" Oh, tally *ho* ! " muttered the *Barberton's* second pilot—a tall, thin man with a dark, sardonic eye. " All hands hunt the inventor ! Don't mind his feelings—he's got no friends. That looks like a police-'plane. Regulating the traffic, of course." He snorted with derision at his own suggestion.

The screen had flashed up blue again, to reveal a whole host of craft, all seen rear-view and converging on some point in the centre of the picture, far in the distance. In the upper half and a little to the right of the centre, went roaring a long thing of mosquito-slim deadliness, her foreshortened underbody reflecting back the up-shining dull-yellow glow of the desert, with the Imperial Air Police mark over her Australian numbering.

" There's an Italian to starb'd of him," said the Senior Radio Operator, " and that's a Russian taking his light. I suppose they're here to get tips from the Australian method of traffic-control—along with the Jap and the Frenchman yonder ! I suppose we've really *got* to call 'em Police . . ."

" Mustn't let Geneva hear you call 'em anything *else*," warned the Second Pilot, with a laugh that held no amusement. " Look at 'em ! Just look at 'em ! Chasing after him with their claws half out already ! "

" If the thing's a success there'll be a six months' row at Geneva to decide which nation's to have first bid for the secret . . ."

" There'll be no need for any Geneva row," said the Chief Engineer out of the corner of his mouth. " The whole world'll have it in six months anyhow. You can't keep a mechanical secret nowadays."

The saturnine airman nodded. As the captain had made clear to Sir John, the airman of to-day has few illusions. " It's supposed to be bad and narrow and wicked to be loyal to kings and queens any more. ' Patriotism is not enough.' Not now. Not nearly enough. Wouldn't yield five per cent. in any market. Couple it with £ s. d., though, and you're talking ! If Jamieson won't sell to the highest bidder—well, it won't be long before one of his assistants or somebody sells *him*. It's a funny world."

" And I'm damned if it's ready yet for people like Jamieson," emphasised Captain Welles. " Imagine a fleet of those things, each of 'em the size of a steam sea-liner. . . ."

Sir John Cummings looked like losing his temper. " We have none of us the least intention—— " he began, but got no further.

For it was then that the thing happened.

THOUGH ignored by the arguing ship's officers, the booming overtones of the Press broadcaster had been going on all the time. Now they were drowned by a roar of Morse, abrupt, very strong—and compelling attention. There seemed an actual human anger in those

sharp, spark-made, jamming signals. It was confirmed by the voice which filled the surprised after-silence of the room—and of all the listening ether.

"Jamieson speaking!" it shouted, high-pitched and vibrating with a resentment that had boiled to the limit of control. "If you must come crowding and pushing and peering and spying—well, *come on, then!*"

On the television screen the speeding, sunlit shapes against the blue broke suddenly into sweeping gyrations.

"He's stopped his engine and he's rising vertically, like a balloon!" reported Reuter. "We can't follow him that way. We're climbing as best we can after him—we're all climbing. There's—oh, my God!"

TWO of the darting shapes on the screen had become one. Seen as these saw it aboard the *Barberton*, half an ocean away, on that artificial screen of unreal vision, the thing had something of the passionless precision of a laboratory experiment with re-acting chemicals. 'Plane plus 'plane equals . . .

The sky-square was no longer cloudless. There was one cloud now, a cumulo-nimbus, whitish where the sun caught it and slowly swelling; grey beneath, a lurid grey that was shot with the lightnings of exploding combustion-chambers and wrecked gun-feeds—and from it there sifted down a certain smoking rain. For an instant one of those emerging globules shone whitely incandescent—until, like a falling star, it burned out to gas and impalpable dust. The cloud billowed out and out, then began to dissipate, a thing already past and forgotten, below the rim of the wirelessed picture, as the press 'plane and its televisor followed the main flight—for there was still the quarry.

"Jamieson is still rising," said Reuter. "Some of the smaller 'planes have reached their ceiling—they can't go any higher—the air's too rare for them. We are rising after him, but always more slowly. He is perhaps half a mile above us, as you see . . . ."

The picture tilted, and the flying black-and-white plane-dapplings swept down and out of it as the cloud had done. The sun, a curving flash of intolerable light, flicked across it, and then the darkening blue was clear but for the stars that, shining ever more clearly through the thinning air, wheeled drunkenly as the press 'plane struggled in labouring spirals for greater height.

But no; the blue was not quite clear. There was one man-made speck still there, a twinkling of sun-bathed steel, momentarily occulted at intervals when the shadowing of near-rushing wings flickered, out of focus, across that starry square. But always it receded, already tiny, remote, withdrawn from the struggle beneath.

"Ceiling," reported the press 'plane. "We're all on our ceiling now. We've not enough lift in our full-spread planes in this rarefied air, to——"

"*Come on!*" shouted Jamieson—and the radio-amplification made his voice almost godlike in its scornful thunder. "Come up *here* and spy on me! Come on—who's coming? I knew all along you were none of you fit to have it. Go and learn manners! Greedy, gibbering anthropoids!"

The voice cracked and ended in an incoherence of ungovernable anger and contempt.

"He's right!" croaked Welles. "We *aren't* fit for it . . . But it's all very well for him to talk like that. What did he invent it for, if——? What'll he do with it *now?* He can't hide it for ever——"

That was the knot; a Gordian tangle, not to be cut by human hands.

Yet cut it was, before the awed eyes of every soul in that silent saloon of the *Barberton*—and a million others. In that minute the whole planet must have watched as these watched, listened as these listened, in a universal stillness, pent and poignant with dread.

"*MY God!*"

It was no oath, but a prayer gasped out from sudden-twisted lips, a cry never meant for human hearing, an appeal from him who floated alone there above, immured in the hull of that triumph which was to become his tomb also, lost irrevocably to the world he had just scorned and spurned.

"The condenser . . . it won't . . . I can't . . . Tested dozens of times. . . . What's the matter? . . . Why . . .?"

Again it was that terrible, hoarse

# "FANTASY"

**"FANTASY" strikes a new note among British magazines of popular fiction. It is a magazine whose contents might be described as something more than fiction, yet less than fact. It is, in brief, a British magazine of "Science-Fiction," a term coined by enthusiasts to describe the scientifically-based romance first made famous by such masters of the genre as Jules Verne and H. G. Wells.**

**Those romances were great stories, judged by any standard. But they were something more. They were inspired dreams of the future, based on known scientific facts of their time—the very essence of Science-Fiction. Many of the events they foretold have since come to pass. The fiction of yesterday has become the fact of to-day.**

**"Fantasy," then, is a magazine of 1938 in the Wells-Verne tradition, a magazine to stimulate imagination in that most fascinating of all fields of surmise—the future. What a field for stirring fiction! Mankind—will he survive the distant future of the World? Or will some cosmic disaster remove him as though he had never been? And if he does survive, what will be his destiny? Will it be towards a mechanised and regimented human race, subservient to the automata it has itself created, as Prestigiacomo suggests in "Menace of the Metal Men"? Or is John Beynon's fantasy nearer the truth and does the future hold another Dark Age for mankind when civilisation will have been laid in ruins by fearful weapons of destruction whose forerunners we are now so busily producing?**

**And if, instead, Man's evolution is to continue, what new wonders will he know? Electricity, radio, television, aircraft—what amazing developments of these, only dimly imagined as yet, will be realised in time to come? To-day we have gained the stratosphere, victors in the last element left to Man to conquer. To-morrow, perhaps—as Cleaver's article on Interplanetary flight predicts—Man will have ventured farther—gone forth into outer space to find a new destiny among the stars.**

**What man will actually achieve to-morrow, the imagination of a gifted writer may foresee to-day. So comes "Fantasy," which, right or wrong in its visions of the future, is a new magazine of entertainment and high adventure, more up-to-date than to-day's newspaper and containing, maybe, the greatest news-stories of to-morrow.**

**If you like "Fantasy," write to us; if you dislike some—or all—of its contents, write to us just the same and tell us why. "Fantasy" will welcome all letters from readers. They should be addressed to "Fantasy" at Tower House, Southampton Street, Strand, London, W.C.2.**

**The Editor.**

## SON OF SPACE

*(Concluded from previous page)*

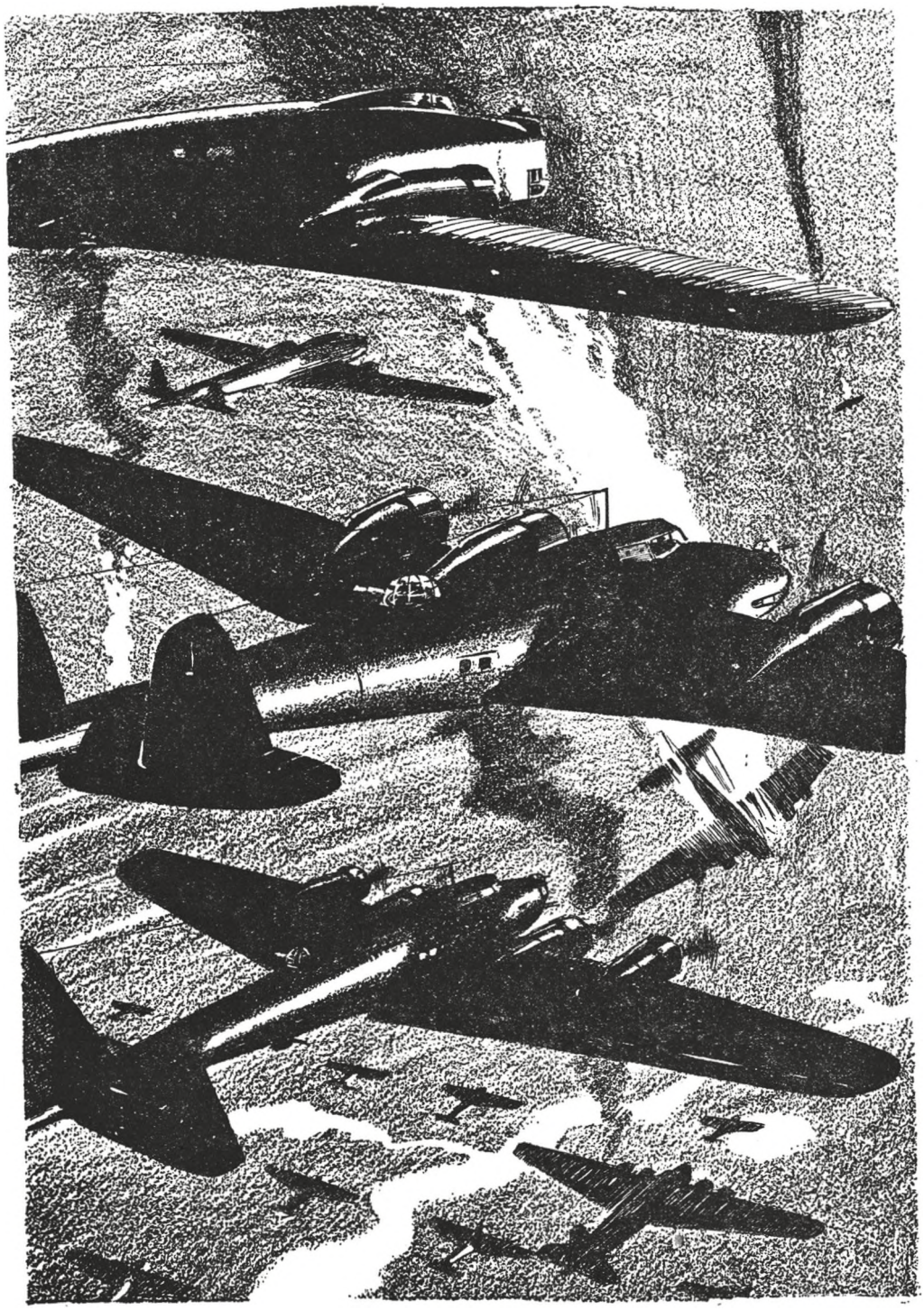
undertone, inhumanly amplified by his forgotten wireless so that all the world could hear a secret soul's despair.

Aboard the *Barberton* it came as to a group of ghastly statuary. It was as if the very air of the place had changed to a great block of transparent ice and they frozen within it ere there could move limb or even eye.

*Asteroid* was her name; asteroid she had now become—a new planet, a wandering comet. Only God could know what she would become, now, amid the fighting cross-pulls of interstellar forces.

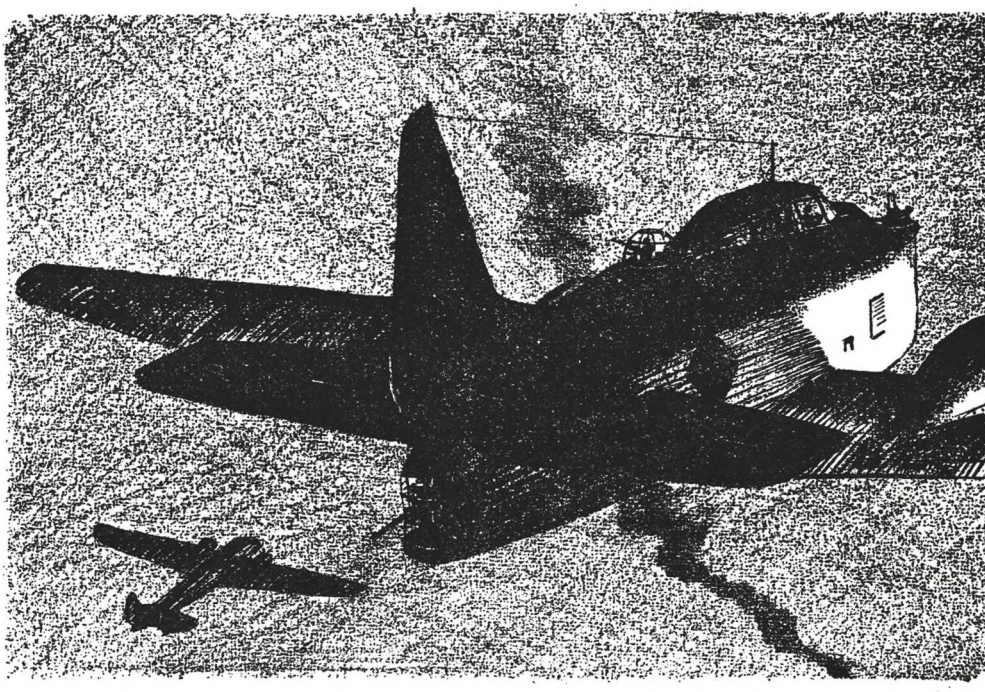
The speck on the screen glittered no bigger than a dust-mote; and at it, in that frightful rigour of theirs, they stared—all humanity must have stared, with one great wide composite eye of fixed and pleading prayer, achingly intense It was as though the world, by sheer force-current of blended human will, would hold back and save this one lonely son of earth from the grave which had opened in the black infinitudes above him.

But the pin-point fleck on the television screen flickered, twinkled in and out, like the star it was become. For one final second, ere it was utterly lost, it seemed to shine clear and steady, a point without magnitude, immensely far.



*. . . above was a mighty throbbing of engines, telling that not all the fleet had yet been overtaken by disaster*

## *An Amazing Story of Britain Invaded—and Impregnable*



# BEYOND THE SCREEN

**Of Judson's Annihilator it might strangely have been said that the most Terrible Weapon produced by One Civilisation served both to hasten its own Destruction and to promote the Building of a New and Better Order among the Forlorn Survivors of a Far Distant Age**

*By* JOHN BEYNON

## CHAPTER 1

### The Screen of Annihilation

MAJOR-GENERAL STALHAM finished the kidneys and bacon and got down to the toast and marmalade. His nephew watched him patiently from the other side of the table.

"More coffee, Uncle?" he suggested.

The Major-General hauled in his faculties from a long distance.

"Er—yes, thank you. Wish I could get coffee like this at home. No good. I've tried. No idea." He drank and lapsed into silence again until the meal was finished. Then, with the first cigarette of the day between his lips, he became more sociable.

"Where's your friend?" he inquired.

"Judson? Oh, he's outside, fiddling with his contraption, I fancy."

The Major-General gave a half smile.

"Getting ready for the show, is he? You know, my boy, I've more than a suspicion that you've brought me down here under false pretences."

"Well, sir——" Martin began.

"You needn't apologise. Good food, good wine, good coffee—owe you a little for that. Only hope shan't have to disappoint him. But why didn't you give him an introduction—send him round to my office?"

Martin Stalham hesitated.

"We thought it would be simpler, sir. Save some office work and the arrangement of a preliminary demonstration. If you think the thing is no good—well,

that's that. But if it is really important, then we can get down to the question of a full-dress official demonstration right away."

He hoped that sounded all right. What Judson had actually said was: "No letter of introduction for me if I can help it, old man. I know how these interviews go. The War Office wallah listens without bothering to take in a single thing you're saying, then it's: 'A very interesting theory, Mr. er—Judson. If you will leave your plans our experts will examine them and report.' Then out you go. Someone says: 'Another of these cranks,' and the plans go into a pigeon-hole. Forty years later somebody else finds them, and you become a neglected genius. Not good enough, old man. No neglect for me."

It was he who had suggested this week-end visit where he could meet the War Office man on equal terms.

"H'm," the Major-General responded. "Well, I know you wouldn't have got me down here unless there's something in it. Who is he? There are some Judsons in Norfolk, aren't there?"

"Distant connections, I believe," said Martin, without any idea whether he was speaking the truth. "I knew him at school."

"Queer chap. Scarcely mentioned his contraption last night. Never before met an inventor who could keep off the subject for five minutes. Pleasant change."

"That's like him," Martin said. "He's got a good sense of proportion. I've never known him to be swept away. So when he said that his discovery was important, I felt that it was—well, important. All the same, I made him give me a private show before I consented to fix up this meeting."

"So you really think there's something in it?"

"That's for you to say, sir."

The soldier nodded and got up from the table.

"May as well go and see if he's ready now," he said, leading the way to the french windows.

THEY strolled down the gravelled path which led along the side of the house to the back lawn. It was a large, smooth spread of turf with the appearance of having been carefully tended for a century or so. On one side a dignified and spreading cedar masked the converted stables. Bushes bounded much of the rest; a few silver birches shone palely in their veils of small leaves; at the far end a copper beech spread sombrely, but shot with dull gleams. The permanent part of the vista was orderly and peaceful; only in the very middle of the lawn was there a blot of untidiness where Judson was preparing for his demonstration. When they arrived he was bending attentively over a trapezoidal black box mounted upon four well-splayed legs. From beneath the box two cables emerged to curl away over the grass, like thick black worms, in the direction of the stables. About ten yards farther away lay a miscellaneous pile of broken bricks, pieces of wood, and odds and ends of metal, grotesquely out of place on the carpet-like lawn.

Judson straightened up as they approached. He was a tall, thin man of thirty, of the type which always looks slightly untidy in .limbs and clothes despite its most careful efforts at control. In his case the effect was enhanced by thick fair hair which nothing could keep in permanent subjection. Both his long thin face and his pale blue eyes showed a trace of anxiety as he raised them; it was possible that the War Office man might resent being forced to watch a demonstration under such conditions. But his expression cleared when he saw that the other was genial and interested.

"How about it, my boy? Ready for us?" the Major-General inquired.

"Yes, sir. It's ready now."

"Good. Where'd you want us to stand? What sort of range has this death ray of yours got?"

Judson looked hurt.

"It's not a death ray, sir. It's an annihilating screen. This particular machine has a range of a hundred feet over an angle of ninety degrees and is directed vertically upwards. If you imagine a large fan, a hundred feet in length and extended to a quarter circle, balanced on its point on this box, that will give you the idea of its field of influence. Actually this is a kind of

toy model. It is just as effective as the big one, within its range, but the range is small."

The soldier looked curiously at the box. There was not much to see externally save a switch or two. He noticed a slot, six inches by perhaps half an inch, in the top casing; within it was a gleam of glass.

"And the thickness of this 'fan'? The fore-and-aft spread, so to speak?" he inquired.

"Very little, sir. It is projected at the thickness of half an inch. My tests have shown an increase by about a sixty-fourth of an inch at a hundred feet."

"You mean that it has absolutely no influence beyond that half-inch thick quarter circle?"

"I have discovered none yet, sir. All the same, it is advisable to stand well clear while it is on. I mean, if one were to make a careless movement——"

"Yes, yes, of course. Where do you want us to stand?"

By Judson's advice they moved ten yards or so towards the house; the side opposite from himself and his pile of rubbish. Judson nodded.

"That's it. Now please don't come any nearer until I have shut off the machine again."

"All right, my boy. We're not fools," said the soldier testily.

"Sorry, sir. But it really is dangerous, though it looks innocent. Here goes, then."

He walked back a few steps, holding a switch attached to a cable. At the full extent of the cable he pressed the switch and dropped it on the grass. A red bulb lighted on top of the box.

"It's on now," he said.

MAJOR-GENERAL STALHAM felt disappointed. He had not known what to expect, but he was aware that he had counted on some visible or audible manifestation. There was nothing save the red light and the young man's claim that the machine was "on."

Judson walked back to his pile of rubbish and picked up a stone. He faced them across the machine and drew back his arm.

"Catch," he shouted, flinging the stone towards them.

The soldier instinctively put out his hands to receive it, but the stone did not arrive.

Half-way on its journey, exactly over the machine, it vanished.

Judson chuckled.

"Try again," he said, and lobbed over half a brick. It sailed through the air, but at the top of its curve it just ceased to be.

The general grunted and stared.

"Stone," said Judson, and threw a flint out of existence. He followed it up with a piece of wood and then metal in the form of an iron bar.

The soldier blinked. He had a hazy suspicion that he was being fooled by some kind of conjuring trick. Had he been able to see the emanations from the machine, or if the objects had disappeared with a flash or a bang, it would have been less outrageous. Somehow the very neatness and cleanness of the operation encouraged his suspicion.

He and Martin, carefully keeping their distance, walked round to the side to observe the effect from there. It was even more odd to follow the parabola of a flying tin-can and see it uncompleted because the can had winked out of existence.

Judson switched off the machine and tossed half a brick over it; it fell with a thud. He switched on once more; a similar half-brick never fell.

"This is remarkable," said the general, though even his cautious nature felt that the words were a trifle inadequate.

Martin left his side, switched off the ray, and hurried into the house. He was back in a few minutes carrying a twelve-bore and a box of cartridges.

"Here you are," he said, handing them over.

A piece of notepaper was pinned to a pair of steps set up on one side of the machine; General Stalham took up a position on the other. He let the paper have the choke barrel and blew the middle out of it. Judson set up another piece of paper and waited until he had reloaded.

"Now try again," he said, as he pressed the switch.

The general let it have left and then right. He lowered the gun, and stared incredulously at the unharmed paper.

"Wait a minute," he called, and hurriedly reloaded.

Again he fired both barrels in quick succession; still there was no mark on the paper. An expression of real awe came over his face. His voice was uncertain as he spoke.

"My God, boy, what have you found?"

## CHAPTER 2

### The Horseman who Disappeared

"YOU two remember one another, don't you?" said Judson casually.

Martin found himself shaking hands with a serene young woman in whom it was difficult to recognise the schoolgirl, Sheilah Judson, of a few years ago.

It was ten days since the demonstration to his uncle, but a rush of business had intervened, making it impossible for him to call at Judson's house until now.

Sheilah was thanking him for helping her brother.

"It wasn't much," he told her. "Juddy really had the whole scheme cut and dried; all I had to do was to be a 'yes man.' Considering what he had to show, the whole thing was a foregone conclusion. What I want to know is how yesterday's demonstration went. Sorry I couldn't be there, but I had to go over to Paris."

"I think it shook 'em a bit," Judson admitted.

Sheilah laughed. "You know him, Martin; most of his swans are geese. Shook them, indeed! I should say so. I've never seen a body of men so dumbfounded and knocked endways as they were when it had finished. I doubt whether they're really believing their own senses yet. Tell him about it, Tommy."

Judson, fishing in the cupboard for beer bottles, landed his catch and turned round.

"Sheilah's right," he admitted. "I wish you'd been there to see. We went down the day before. They sent an Army lorry and a squad of men. We loaded the big thousand-yard brute aboard and the little one too, in case of accidents. I mean, the big one had never been tried out properly—it's not the kind of thing you can fool about with in the back yard.

"We followed in style in a staff car—that was nice for Sheilah, who came along as my technical assistant, because she was able to work up a nice flirtation with the officer in charge. The lorry stopped at Tidworth and I was asked to seal the cases. Then they took us on to show us the site of the demonstration; a particularly desolate stretch of the Plain a few miles beyond the camp. The exact positions of the machine and its danger area were marked out, and power lines had been run there ready for us.

"We spent the night in Salisbury and came back next morning pretty early. The lorry and the squad were there already. It didn't take long to open the cases and get the bigger machine assembled. And after we'd connected up to the mains there was nothing to do but hang about and wait for the nobs to arrive. They turned up in a whole covey of staff cars about eleven-thirty.

"Your respected uncle was well in evidence, as jumpy as a flea on a hot plate. I don't know quite what the old boy had been telling them, but he was as nervous as hell lest the whole thing should be a flop—it must have been a good yarn to have got the demonstration arranged so soon. The rest weren't much excited. They drifted up and sniffed round the machine as if it were some kind of bad smell—I felt that they might have been more impressed if I'd painted it khaki.

"The show was timed to begin at twelve. About a quarter to, they started telephoning to clear the course, running up danger flags, sounding bugles, and all the rest of it. At twelve, a lesser officer announced to a greater officer that all was clear—it had been perfectly clear for a couple of miles each way all the morning, but now it was technically clear. Then—oh, I forgot to tell you there'd been one or two lorries, a small field gun, and some other things drafted up in the course of the morning; they were parked at a respectful distance. Well, then the big noise—he was a Field-Marshal, and that speaks well for your uncle's pull—told me to go ahead.

He and his satellites moved off a bit, so I tagged along too, trailing the switch cable behind me. When they came to anchor I pressed the switch and the red warning light went on. The bigger machine, by the way, sets up a semi-circular screen, covering the whole hundred and eighty degrees from side to side.

" ' Well, what are you waiting for ? ' the old boy said shortly.

" ' Nothing, sir,' I said nicely and politely. ' The screen's up ; it's for your men to test the resistance of the field.' And I explained to him that the game was to get anything past the machine within a thousand yards to either side, but not to go for the machine itself as it wasn't protected at present. He just grunted and gave some orders.

" Out on the left six men marched up to a line about twenty yards from the screen. Their timing was perfect. Six pins were drawn, six arms swung over, and six little black bombs sailed away."

Judson chuckled.

" I wish you could have seen the staff's faces when the bombs vanished—the look of relief on your uncle's face was nearly as good. The rest of them stared after the bombs, then they stared at me, and then again at the place where the bombs should have burst. There was a faint thudding noise far away in the distance if you listened for it, but no sign of an explosion. The Field-Marshal pulled himself together and ordered another bomb shy. Of course that lot vanished too. Some of the staff began to look at me pretty queerly.

" Well, there's no need to go into all the details. They went through a whole armoury of weapons. They put machine-guns on to it with ordinary and tracer bullets, they pumped shells at it, tried flame-throwers, and all sorts. Some young fool even wanted to drive a tank at it ; I was arguing with him when the accident occurred.

" There was a shout somewhere, and I turned round to see people pointing out to the right. A man was sawing away at the mouth of a bolting horse, which was carrying him hell for leather at the screen. Everybody yelled at him to jump clear. I was a hundred yards from the switch then, for we'd had to move back when the field-gun got to work. I sprinted my best for it, but I was no more than half-way there when the horse and rider ran clean into the screen and vanished. I reached the switch and turned it off. Then I walked back.

" I arrived in a funny sort of silence. It was as if they had only just realised what the screen meant. The man who had suggested the tank idea looked particularly sick. The rest kept glancing over the Plain as if they expected the horseman to reappear suddenly somewhere. We all walked down to the spot where he had disappeared. The hoofmarks were plain up to the screen line—there they stopped dead.

" The old Field-Marshal turned and looked at me. He stood quite a time without speaking. Then he said :

" ' God forgive you, boy, for what you may have begun.'

" He turned away and went slowly back to his car. He didn't seem to see us or anything about him."

JUDSON paused. In a different tone he continued :

" Well, then it was all over. We packed up and came home."

" And now ? " Martin asked.

" To-day I've been down at the War Office, talking for hours. It looks as if I shall be having a busy time for a bit. Curious men," he added reflectively, " they tested it yesterday with most things short of big guns—we shall be floating it on a raft and testing out big naval guns against it next week, by the way—but what really impressed them, you know, was that man on the horse. It got 'em ; meant more than all the rest. Nice simple-minded fellows."

" I can understand that," Martin said. " But, tell me, Juddy, what actually does happen ? I mean, I can understand that there may be a form of radiation that shakes things to bits—a kind of disintegrating wavelength—but it ought to vary with different substances and there ought to be some kind of residue, even if it's only dust in the air. Or I could understand one that would incinerate immediately, but there again there ought to be a residue—certainly of metal—and there ought to be the dickens of a detonation in the case

of explosives touching it. As far as I can see it's against nature and science and everything else for things to cease to exist when they hit your screen. The most that can happen to them is that they are changed into something else—a gas, for instance. What actually does happen ? "

Judson lifted his face out of his tankard, and shook his head.

" That's where you've got me, old boy. And that's a point the War Office people have been hammering at half the day. They can't believe, though I've told them till I'm blue in the face, that I don't know."

" You don't know ! "

" Exactly. I have got hold of a force, but I don't know what that force is. It's another manifestation of the power of electricity. Radio is one, X-rays is another, and heaven knows how many others are waiting to be discovered. All I have found out—and to be frank it was half by accident—is that if you do certain things with an electric current you produce this result. I can't give you the wherefore, and it is no good my making wild guesses at the implications of the discovery. Perhaps if someone could explain what electricity really is we might see a lot of things more clearly. As it stands all I can say is ' Do this, and that happens.' Like a small child pressing a light switch, it knows the light will go on, though it can't tell you why nor even how."

" Do you mean to say you've no idea what happens to, say, a brick when you chuck it into the screen ? "

" I do. As far as I can see at present every atom of that brick goes out of existence, but I *know* as well as you do that it cannot actually be so."

HE went on to explain that the source of the screen was in intense radiations supplied from a vacuum tube or tubes. These, on being passed through a narrow tank containing certain elements suspended in activated fluid, set up the screen. The tank consisted of two quarter-circle plates of glass half an inch apart, sealed together with the liquid inside. To cover a greater angle than ninety degrees two or more tanks were used together. He had no intention of revealing the basis of operation, but much of what he did volunteer went over Martin's head.

" And," he admitted finally, " though we don't know a great deal yet, we're learning by degrees. For instance, Sheilah noticed on one of the early trials that it acts as a wind-shield. And there are funny things about sound. We've established that sound does not pass through it, but round it. That wasn't surprising when we knew that it stopped air. But what is odd is the result if you throw a noise at it, so to speak. We set an alarm clock ringing and heaved it into the screen. It, of course, disappeared at once, but the ringing didn't. I went as close to the screen as I dare, and I could still hear it faintly buzzing. A most uncanny sensation first time. And the hand-grenades and shells yesterday—there was that faint, faraway thudding noise although they had vanished." He went on to explain that although light could pass through, heat only passed with a 90 per cent. reduction. An electric spark did not pass at all.

" As far as solids are concerned," Judson continued, " we don't know a lot, but we can show you a few specimens." He led the way into his study and picked up a piece of stick from a pile of objects in one corner.

" That," he explained, " was once an old broom. Sheilah pushed the head of it into the screen ; goodness knows what happened to that, but here is what was left in her hand."

Martin examined the stick. The end which had touched the screen was a bushy mass of splayed-out fibres.

" It was queer," Sheilah told him. " The whole stick sort of shuddered in my hands ; I could feel little tremors running up and down it, but it didn't seem to twist or pull in any way."

There were other examples : an iron rod twisted off, a glass rod curiously fractured. Martin inspected them all with interest.

" It's very odd indeed," he said. " You mean to say that you thrust a rod into the screen, that the end of it disappears at once, that the end of it does not protrude on the other side of the screen—and yet it is not severed immediately ? "

"Exactly. Sometimes—with the iron bar, for instance—it takes two or three seconds to part. But if you find that odd, look at this."

He handed over a small branch of an oak. A few withered leaves still clung to it. The thick end showed a bunch of wrenched fibres similar to those on the broomstick.

"We found it on the lawn one day when we were clearing up after an experiment," he added.

Martin looked at it. It was quite unremarkable.

"Well," he said, "it looks as if you had set the machine up too close to a tree and lopped it off."

"It does," Judson agreed. "But the trouble is, old boy, that we haven't an oak-tree here, and there isn't one anywhere near that either of us knows of."

AT a quarter-past eleven Martin looked at his watch. It was time to think of going, but there was one aspect of the matter which still weighed on his mind.

"I must say," he admitted, "that I feel rather like the Field-Marshal in wondering what you have begun."

To his surprise, Judson grinned.

"I'm not afraid," he said.

"But to let loose this—this annihilator, Juddy?"

"It's going to cause lots of trouble, Martin—but not only the kind you're thinking about." He leant forward. "To-day I've had one of the most amusing days of my life. I've sat for hours watching a crew of military experts digging their own professional graves. Even now most of them don't see that my machine implies the end of war."

Martin looked at him. Judson, who was known for his restraint, seemed to be changing his habits.

"And they—the War Office people—what do they think?" he asked.

"At present," Judson said, "they aren't so much thinking as reacting by axioms. It's one of their axioms that a new method of attack invariably produces a new method of defence, and *vice versa*. That is true up to a point, and it has gone on for so long that they think it is a rule of nature. In a quantitative way it does work out like that; bigger guns mean thicker armour, which means still bigger guns, *et cetera*. But if there is a qualitative change, why should it continue to work? And there are warnings that several qualitative changes are on the way. Radio is an obvious one, but the idea of a broadcasting station as an important military weapon is only just sinking in. So to them my machine is just another defensive weapon."

"And to you?"

"I think it is the final word in defence. It makes all attack silly and futile."

"War is silly and futile anyway, but it keeps on. All the same, I hope you're right." Martin was not able to feel any great faith in such a claim; he had heard of too many things which were to make war impossible—economic necessity, the League of Nations, even the war to end war, and here was all Europe on the brink of another. But Judson went on:

"I believe I am right. And if I am, then mine is a constructive and not a destructive weapon, Martin,—the real means of beating swords into ploughshares. It will mean the beginning of a new system. With war made obsolete we shall be able to get on with the things which matter. We're now going to pieces pretty fast under the threat of war—everybody snatching at quick pennies, nobody building to last; and why on earth should they if it's all going to be bust up next year or the year after? And we can't get on with building anything worth while till we've cleared the site of all this clutter of arms and armaments and mumbo-jumbo. Then we can go ahead—and have the money to do it with when the fools stop throwing away millions on weapons which are out of date when they're a couple of years old."

He broke off and then added with a smile: "But, of course, my brass-hatted friends don't believe that my machine will do that—I wonder what would happen to me if they did?"

A little later Martin said good-bye and left. On his way home he found himself looking up at the peaceful night sky. Some night, not very long now, he feared, there would come the droning of a great aerial fleet; they would blot out the stars with their wings while

they rained death and destruction on to the city beneath. It was inevitable —unless Judson was right.

And if he were right—if he had indeed created the perfect defence—would the crowd worship him as their saviour? Or would they revile him for spoiling their military toys? Quite probably the latter, he thought, with a shrug. There was not much to encourage faith in humanity these days.

However, it seemed more than probable that the question would never arise. . . .

## CHAPTER 3

### Rumours of War

MARTIN became a not infrequent visitor at the Judson's home during the next eighteen months, but he saw little of Judson himself. Judson, in fact, seemed to see very little of his home. Much of his time was spent travelling and the intervals mostly in his study. Sheilah was worried about him.

"They're working him to death," she told Martin. "When he's here he works until three or four in the morning and when he's away he's being rushed here and there all the time. He can't stand that kind of thing too long. Besides, the organisation and business side isn't really his kind of work."

Martin agreed. The few glimpses he had had of Judson were enough to show that. There were new lines on his face and signs of strain round his eyes; he fidgeted incessantly and was short-tempered with his sister and with everyone else.

"It'll end in a breakdown," she said unhappily. "Lots of people have told him so, but he won't take any notice."

"I know," Martin told her. "I hear from my uncle that he's so edgy it's becoming almost impossible to work with him. But the trouble is that they're all in a hurry and they can't get on without him. He keeps too much in his own hands and won't let go. Why on earth doesn't he depute more and take it easier?"

"I'm not sure. I think he wants to keep all the control he can because at the bottom of everything he's a bit afraid. You know what the old Field-Marshal said to him—well, he still makes fun of that: makes fun of it too often for a man with an easy mind. I may be wrong, Martin, but I've an idea that he thinks he can stop it if it doesn't seem to be working out as he expects."

"But that's ridiculous. He'd never have a chance now."

"You'd think so, but I don't know. He may be keeping some essential part of the machine a secret."

"But would they take it on such terms, do you think?"

"They wouldn't like it, but he makes the terms. Tommy can be remarkably stubborn, you know."

Whether Sheilah was right or not about the cause, it was clear that Judson could not keep on at his present pitch indefinitely. On her behalf Martin tried to reason with him. Judson put it aside.

"You don't understand, old boy. The work's got to be done and done damn quick. There's no time to lay off."

"But you've been working like a nigger for over a year now. Surely there's someone else who can give you a breather for a bit," Martin protested.

"Not now, not yet. It ought to slack off in a few months, then I'll see. We're working against time, and we've got to beat it. Now, if you don't mind, old boy, there's some work I must get on with. . . ."

The scheme developed with remarkably little publicity. Large metal boxes on stands set in concrete began to appear here and there. There was one on the top of the London University tower, one on Bush House, others on Westminster Cathedral, on a chimney of Battersea Power Station, on a tower of the Alexandra Palace, and on one of the remaining towers of the old Crystal Palace; there was said to be one even on the top of the cross of Saint Paul's. It was generally understood that the boxes contained air raid alarms of some kind, though there were varied opinions on how they would work.

Other things less obvious than the metal boxes appeared. There were two telephone boxes on the most exposed parts of Hampstead Heath and another

at Highgate which had locked doors and permanent "Out of Order" notices on them. There were several objects which looked like transformers, but had nothing to do with the grid system, to be found here and there upon high ground both in Surrey and Middlesex. Also on Surrey hilltops there appeared some new summer-house-like huts reputed to be look-out shelters for fire-wardens. Out Dagenham way were to be found occasional oddly-positioned structures bearing an entirely superficial and quite exasperating likeness to public lavatories. Down near Bromley several small water-towers arose; only the local authorities knew that they contained no water—and even they were at a loss to know what they did contain.

NOR was this outbreak of decidedly minor architecture confined to the London area. Manchester, Birmingham, Liverpool, Leeds, Glasgow, Edinburgh were a few of the many cities and towns it invaded. Certain seaports learned to their surprise that the landmarks which had served them perfectly well for several generations were inadequate and that it was urgently necessary for them to have new and more solid landmarks. And as the Government quite surprisingly undertook to defray the entire cost, they had them.

Comment was sparse. True, certain of the unusable telephone boxes came in for scathing remarks in letters to local papers, but nobody can tell merely from its external appearance whether a transformer or a fusebox is unusable or not, and there is a natural reticence on the subject of being taken in by a dummy public lavatory.

If it was suspected that numbers of heavy cases leaving England for Singapore, Aden, Hong-Kong, and other strategically important spots did not in fact all contain pianos or agricultural tractors, no one mentioned it. There was activity in the naval dockyards and at the naval bases. New, strange bulges appeared at the foretops of His Majesty's ships of war. There was no disguising them. Foreign agents learned by subtle questions that the British had discovered and were employing a new tap-proof method of wireless communication. Their various governments thereupon started to spend much time and money in the attempt to tap the untappable, not to say non-existent, system, and by a natural corollary to disbelieve all normal radio messages. There was some confusion and not a little ill feeling in various interested departments.

Of all this the public knew only such isolated scraps as would not begin to fit into a comprehensible whole. Of course there was preparation for defence; everybody had heard about that—was not every war now a war of defence on both sides—it was a thing which meant a rise in taxes; quite what else it meant since Mr. Baldwin had declared that the bomber would always get through, nobody was quite certain. Anyway, it was the Army's job, that's what it was paid for. The ordinary man or woman was quite prepared to believe that the metal boxes were indeed alarms, though no one troubled to inquire what kind of alarm, nor even what he was supposed to do if he recognised it as an alarm. Besides, it probably wouldn't be any good, anyway.

At home this kind of fatalism was growing. Faith in the integrity of the Government and in its capacity had been weakened by successive shocks. There was a disinclination on the part of some of the people to be fooled all the time.

Abroad, the familiar game of international poker went on. It wasn't very interesting to the man in the street; it is a bit monotonous to watch the same man call the bluffs all the time and never have his own challenged. The democracies looked to be nearing the strip-poker stage. And behind it all, though dimmed by successive crises and tensions somehow negotiated, was the knowledge that the big show-down must come.

When, Martin wondered. There were prophecies here, prophecies there. Ten years, five years, six months? Not long, he thought, if they found it necessary to work Judson so hard. But was it necessary? Or was it an attack of wind-up again? Hard to tell. Was there any reason, considering how far things had drifted, why they should not go on drifting for another five or ten years?

The summer passed. The newly-formed and totalitarian United States of

Central Europe continued to rebuild themselves in a series of sabre-rattling crises. The remaining democracies, heartened by a voice of freedom from across the Atlantic, took heart and stiffened slightly. There was a faint stirring in the East; a suggestive clink from the Hammer and Sickle. The sensation that the curtain was about to go up grew more acute.

The autumn brought no relaxation. The self-appointed Dictator of the U.S.C.E. turned his attention to Africa. Rumours of a jehad began to circulate in Arabia. There were riots in Egypt and movements of ships towards the Suez Canal. An inconsiderable island off the Esthonian coast was acquired by the United States of Central Europe in conditions which resembled a forced sale. The Scandinavians looked on uneasily.

Late in October came a rising in Algeria, trouble in South-West Africa, and demands for colonies from the U.S.C.E. Then, while anxious efforts were being made to localise the trouble on the north African coast, a U.S.C.E. troopship and its escort vanished without trace while on passage in the Mediterranean. Threats, accusations, and counter-accusations flew wildly. In government buildings in all parts of the world men nodded as they read: "Here it comes," they said, with a half sigh of relief from the tension that was over.

There was no declaration of war; it was not expected that there would be. The value of surprise had grown too high to be thrown away lightly. It was acknowledged that the one who could first strike a crippling blow was half-way to winning. For three or four days vituperation erupted from the presses. Then came action.

## CHAPTER 4

### The Fate of an Armada

AT ten o'clock on the night of November the fifth trusted members of the Intelligence Service of the United States of Central Europe engaged themselves in long, and sometimes not very important, foreign telephone calls. It came about that all lines from the country were in use. The scheme was admirably calculated to stop any news getting out of the country, save in one particular—that the first batch of subscribers so anxious to greet their friends abroad all wished to do so exactly at ten o'clock G.M.T., not a minute before and not a minute after. This curious occurrence, taken in conjunction with the knowledge that the Belgian wires were also humming with business deals or friendly greetings from citizens of the U.S.C.E., and that there was also unusual pressure on the telephone services of those countries known to be friendly towards the U.S.C.E., was warning enough.

The general public knew nothing. There was no dimming of lights, no alarming notice from the radio; superficially, all remained normal.

In an office in Whitehall a group of experts hurriedly summoned together sat in front of a large-scale map of south-west England which covered the whole of one wall. There was little talking. Judson, fidgeting and lighting one cigarette from another continuously, looked ill to the point of collapse. There was sweat on his forehead and the cigarette trembled in his fingers as he raised it. The old Field-Marshal muttered to his *aide* to get the fellow a drink quickly.

On the tables were maps of smaller scale. Below the wall map an officer sat at a keyboard which suggested a calculating machine. At the back of the room were two operators with private exchanges. They called out telephone messages as they received them.

"British merchant vessel *Ellen Kate*, ten miles off Ostende, reports large fleet of 'planes without lights passed over her in westerly direction. 11.32 p.m."

"Mail 'plane Amsterdam to Croydon reports large number of 'planes without lights at great height heading west. Latitude, 51.66 north. Longitude, 2.55 east. 11.36 p.m."

"H.M. Destroyer *Nous* reports considerable number of aircraft, estimate impossible, proceeding west; 12 to 14 thousand feet, without lights. Latitude, 51·50 north. Longitude, 2·30 east. 11.40 p.m."

An orderly entered the room silently and handed a sheet of paper to the Field-Marshal. He read it and passed it

on to the Chief of Air Staff. The message ran :

" H.M.S. *Unappeasable* reports large fleet of 'planes left Sicily. Passed south over Licata 11.30 p.m."

The Air Chief Marshal looked up, his lips silently forming the word " Malta." The Field-Marshal nodded. Both turned their attention back to the maps and the telephonists. Messages were still coming in :

" Swedish liner, *Värmland*, Gothenburg to New York, reports fleet of unlighted 'planes to the south of her, apparently headed west. Latitude, 51·60 north. Longitude, 2° east. 11·45 p.m."

" U.S.S.R. merchant vessel *Turksib*, London to Leningrad, reports large number of 'planes passing north of her, heading west. Latitude, 51·71 north. Longitude, 1·90 east. 11.48 p.m."

An officer looked up swiftly.

" They've split, sir."

" Warn Harwich."

" Harwich on the line, sir. They've heard. They're passing on warning to Leicester, Birmingham, and Manchester. Hull on the line, sir. They're warning Leeds and Sheffield. North Foreland calling, sir. The detectors there have picked them up. They're passing north of the coast, following the estuary. They estimate five or six hundred 'planes."

A pause followed, then :

" Shoeburyness calling. They think the fleet's divided again. Chatham calling. They say they will proceed independently according to plan."

" Stand by," ordered the Field-Marshal abruptly. The man beside the map stiffened and poised his hands over the keyboard.

" Horizontal screens, sections D and E," directed the old man.

The operator pressed two keys. The districts east of London, both north and south of the river, glowed faintly on the wall map.

" Tilbury reports that they are overhead," intoned the telephonist.

" Alignment Seven," snapped the Field-Marshal.

The operator's hands rattled over the keys. A string of lights broke out on the map. They ran in a curve from Brentwood, through Romford, Ilford, Woolwich, and Sidcup to Eynsford, a row of bright points which meant that the Judson Annihilator had come into action in earnest for the first time.

There was dead silence in the room for perhaps three minutes, then :

" Add Alignment Twelve," said the steady voice.

Again a string of lights starting at Brentwood sprang out on the map, but this time it ran by way of East Horndon, Orsett, Tilbury, Rochester, Kingsdown.

In that irregular glowing circle there was contained to the best belief of those in the room every attacking 'plane of the southern division save the few handled by Chatham.

Someone opened a window. Above the regular murmur of the traffic there was another sound ; the far-away drone of hundreds of engines. Most of the men in the room crowded closer to the window and held their breath to listen the better.

" It's getting less," said someone. " By God, it's getting less."

Judson got up unsteadily. He looked round the room with a rather foolish smile.

" Well, it's the end for some of you chaps," he said thickly. " Better start looking for new jobs to-morrow." He began to laugh and sway on his feet.

His neighbour caught him as he fell.

" The fellow's tight," he said. " I'm not surprised. I'd be tight myself if I'd done half what he's done."

NOVEMBER the sixth dawned in London a clear, sunny day. Suburban trains decanted their regular thousands, offices and shops opened, trade went on as usual. Yet for all the appearance of normality there was a tenuous, indefinable sense of something in the wind.

Fleet Street, which had buzzed, and for the matter of that was still buzzing, with rumours, found little substantial enough to print. The later editions carried an official Government regret for any disturbance its surprise aerial manœuvres might have caused to residents in East London and in certain other parts of the country. Contenting itself with that, Whitehall sat back and awaited developments, happily picturing the consternation on the Continent.

And consternation there was. Even a totalitarian state cannot hope to hush up indefinitely the complete disappearance of a large part of its air force and most of its best flyers. Agents estimated that, in all, bombers and fighters to the number of a thousand or twelve hundred had set out upon the greatest raid in history. They had kept touch by radio until the English coast was reached—after that there had been silence. The cones of the home 'plane-detectors remained turned skyward to catch the first sound of the return. Radio operators waited throughout the night for news, and in the dawn they were still waiting. Official accounts written beforehand were set up in type and held ready; press time came and the accounts remained unused. London and all the other cities of England were untouched; even from the lips of their Embassy and consular staff, the Inner Council of the U.S.C.E. could scarcely believe it. Weary ground staff still waited ready on the flying-fields. The underground hangars remained forlorn. Radio men still called desperately into the unresponsive ether.

Rumours of disaster started to creep out from the flying-fields and the newspaper offices. Those who had heard the fleet set out began to talk. The fiasco could not be kept quiet; the friends and relatives of the missing men could not all be fobbed off, there were too many of them. Gradually the tale got round of a new Armada which had never returned.

Similarly in the Mediterranean. A fleet estimated at about seven hundred 'planes had set out to blow Malta to bits. Malta still lay unperturbed in the kindly sunshine—but the 'planes, the pride of the U.S.C.E. Air Service, which were to "darken the sky with their wings," where were they?

No one seemed to know; in truth, no one did know.

A near panic spread through the army councils of the World.

England professed an inability to understand the situation. She had had a number of 'planes up practising on the night of the 5th: all had landed safely. But she understood that several aircraft of the United States of Central Europe, also practising, had disappeared. She offered help in the search, if informed of the localities of the disappearances.

Totalitarian speeches reached masterly heights of face-saving, but the 'planes were gone and the pick of the flyers with them. A new force must be trained, but—and here lay the real root of apprehension—for what? To vanish from the face of the earth like the rest?

## CHAPTER 5

### The Hand from Nowhere

IT was four months later that Martin met the Judsons on their return from Cornwall. Letters from Sheilah had told him that her brother was making a good recovery from the strain of overwork, and they had not exaggerated. Judson was looking better than he had at any time since the demonstration of the machine to Major-General Stalham. Martin's interest, however, was chiefly in Sheilah. In that time he had seen her only on two of her brief visits to London; hurried, unsatisfactory meetings which had had to be worked in between appointments—no fit occasions to find out whether she had made up her mind yet.

Things had been at that stage a long time now. She liked him, oh, yes, she liked him; she was fond of him. But marriage, well, that was different. Oh yes, she'd sooner marry him than anyone else she knew; but she wasn't sure that she wanted to marry at all—not at present. She didn't know; she couldn't make up her mind. A most uncomfortable and not very flattering state of affairs, Martin felt. A different type of man would, he knew, have forced the issue long ago; but he avoided that, aware that though failure would make him miserable, success would leave him uneasy. He preferred a voluntary answer, whichever it might be, to one sprung by shock tactics.

Judson was talkative, rambling from one subject to another. He inquired after Martin's uncle.

"How is the old boy? Haven't seen him since the great day. Haven't seen any of them, as a matter of fact. No loss to either side. I don't like them and they despise me."

"Despise you?" Martin echoed surprisedly.

"Well, it's partly that and partly disapproval. For one thing it has now dawned on them that the annihilator has upset the entire military apple-cart, and for another they feel that there's something ungentlemanly about it as a weapon. That, I imagine, is due to the old duelling spirit of a sporting chance, mixed up with a regret that there's nothing spectacular or noisy about the annihilator. You may have noticed that every new weapon has been considered ungentlemanly to begin with; well, I come in for all that. They've put up with me because they had to, but they don't want to have more to do with me than they must. To your professional soldier war is a game, a kind of super chess—civilians like you and me who look upon it as a mess to be cleared up as soon as possible are gate-crashers and boors."

Martin understood, and agreed.

"I know. We've a number in the family. I've never understood how their position differs radically from that of the hired gunman, but they're convinced that they're the salt of the earth. But what about you, Juddy? What are you going to do now it's over?"

"Me. Oh, now I can get on with useful and sensible applications of the annihilator. Of course the thing remains a secret at present—I've sworn oaths to that effect, but sooner or later it will be given away or sold by some enterprising agent, and then there will be no reason why it shouldn't be applied commercially.

"There are all sorts of things one might do with it. It will be useful for rubbish disposal, for instance—just tip the stuff on to a screen and it vanishes. No more dumps, no more hideous slag-heaps. It may be possible to use it for smoke disposal so that we shall have decent, clean cities. I don't know; there are plenty of possibilities, but the first thing to do is to learn more about it: make it reasonably safe to handle; work out positive controls; find an insulator if possible; and all that kind of thing. We're going to get down to that as soon as we can get the stuff together."

"We," Martin noticed. That meant that Sheilah would be helping, he supposed.

It did. Sheilah admitted it unhappily. A long conversation with her settled nothing new; it criss-crossed back and forth over the same old ground, and got nowhere. She ended miserably:

"It's no good, Martin. I've got to be *sure*, and I'm not absolutely sure. And that makes it unfair for you. Martin, why don't you find someone else? You deserve someone else, Martin—a nice sensible girl who can make up her own mind, and make you happy."

"There isn't anyone else," Martin said simply.

JUDSON took a roomy house in Surrey. It stood in forty acres of wall-encircled grounds a few miles from Dorking, on the lower slopes of the hills overlooking the country to the south. Workmen were busy on it for some weeks, and when he and his sister moved into it at the end of April it had become part dwelling-house and part experimental workshops and laboratories.

An electric alarm fence had been run round inside the boundary wall. Two assistants lived in the house and two burly individuals who seemed to have no well-defined duties occupied the erstwhile coachman's quarters. The ex-policeman who dwelt with his wife in the gatehouse gave all visitors severe scrutiny, and unless their names were on his list telephoned to the house before admitting them. Martin on his first visit had the sensation that he lived in a state of invisible siege.

"It's all rather irritating and melodramatic," Sheilah confessed, "but we hadn't any choice in the matter. It was a case of putting up with what the War Office calls 'adequate protection of official secrets' or doing no work on it at all. We even had to submit a list of friends who might be expected to come and see us for their approval—it's all right, you were vouched for by your uncle, but there does seem to be something funny about some of our friends: their names were left out of the list sent back to us, and somehow I've never quite liked to inquire why."

Judson seemed to be enjoying himself. He had overcome some technical difficul-

ties and produced an annihilator throwing a quarter circle of ten feet radius. He explained that the cut-off was absolutely dead at that range, which meant that it could be used indoors as well as being light enough to be moved about easily outside. It had led to some interesting discoveries. One was that for annihilation it was necessary for the object to pass through the screen either by its own motion or by movement of the screen itself. To cut the object with the screen was to produce a different effect. Martin found the results difficult to understand in the abstract, but Judson willingly demonstrated.

They took the ten-foot projector into the garden which was still untidy from the neglect of years. In front of a dreary-looking laurel bush Judson set the machine low on the ground. He tilted the projection slot upwards, switched on, and brought the invisible screen down to horizontal. The bush vanished from the top downwards until only a ragged stump remained.

" As I tilted it the bush passed through the plane of the screen," he said. " But—— " He searched around and found a half dead tree. " Watch this," he added.

The machine was set up again, this time the slot was horizontal, pointed directly at the trunk.

He switched on, tapped the machine lightly, and switched off again. The tree, with a tired, slow motion, leaned over and fell in a crackle of its rotten branches. Martin stared at the stump.

" If you were to measure it you would find that a slice approximately half an inch thick has been taken out of the trunk," Judson told him. " The work's not quite as neat as a saw, but it ought to revolutionise the lumber industry, I think."

He rattled on for a while about its application to wood and metal cutting.

" Or quarry work," Martin suggested. " Or canal digging and drainage work."

Judson hesitated at that. He frowned.

" You'd think so," he agreed, " but that's one of the things I'm up against. There's something funny about that, something fundamental about it I can't make out yet."

" You mean you can't make the solid earth disappear," Martin smiled. " Well, there's something consoling about that. But if a brick—why not earth ? "

" Exactly. Why not ? But I'll show you."

A FEW moments later he and Martin bent over a patch which had been swept by the annihilator's rays. In theory there should have been a short ditch ten feet deep. There was not even a depression. Martin prodded his fingers into the soil.

" It's real enough," he said amazedly.

A few minutes ago the space in front of them had been a patch of barren earth with a covering of last year's beech leaves. Now, along the line where the screen had passed, and nowhere else, was a covering of coarse grass.

" If it had been the other way round—— " he said, feebly.

" Quite," Judson agreed. " But it isn't."

Later Martin mentioned the phenomenon to Sheilah. She nodded without surprise.

" I know, there've been several things like that. Did you hear about my birds ? "

Martin shook his head.

" That happened about ten days ago. I was working in the lab. with the small machine when I suddenly found two swallows flying wildly round the room. They couldn't have flown in just then, because it happened that all the windows were closed. And it doesn't seem likely that they'd been there all the time without my knowing, because I'd been working for an hour and a half before they began fluttering about. They just came from nowhere.

" But that wasn't nasty, like the thing that happened some months ago near London. They were trying out one of the defence machines when something plopped down close to the projector. When they went up to it they found that it was a man's hand hacked off at the wrist. It was still warm when they picked it up, but it belonged to nobody who was there.

" There's some explanation, of course," she added, " some angle to the thing which neither Tommy nor I nor anyone else has any idea of yet. But we don't seem to be getting much nearer the answer."

Martin left later with plenty to think about and a feeling that there was an element of danger which none of their elaborate precautions covered. He had a sensation that Judson and Sheilah were not unlike people walking too close to the edge of a cliff in a thick fog. It was no light uneasiness, it would not be dismissed, and remained as a background to all his conscious thoughts. Next Sunday, he determined, he would have it out with Sheilah and try once more to get her away from it all. But that left time for a lot to happen.

## CHAPTER 6

### Disappearance of a Stranger

ON Friday evening as Martin entered his club, intending to dine, the porter handed him a telephone message :

" *Mr. Judson urgently wishes you to ring him as soon as possible.*"

The time of the message was entered as 2.30 p.m. The porter put in :

" Mr. Judson rang again half an hour ago, sir. He sounded very worried."

" I'd better speak to him at once," Martin said, giving the Surrey number.

Five minutes later he heard Judson's voice.

" Thank the Lord," it said. " I've been trying to get you all day. Martin, it's about Sheilah. She's disappeared."

Martin put out a hand to steady himself. He felt as if he had had a physical blow. At the back of his mind a voice was gabbling—" It's happened. This is what you were afraid of. That damned machine has killed her." He took a grip of himself. His voice was curiously flat as he asked :

" What happened ? An accident ? Did she make a mistake ? "

" Mistake ? "

" Yes, with the machine ? "

" No, no. It's nothing to do with the machine. It was—look here, I can't very well tell you over the 'phone. Can you come down here ? "

" Of course. I'll be down as soon as I can. You're sure it wasn't anything to do with—— ? "

" No ; something quite different."

" Thank God for that," Martin said. " I'll be there in an hour or so."

It was a few minutes under the hour when he stopped his car with a spatter of gravel in front of the house. Judson himself opened the door and led him straight to the lounge.

" What's happened ? " Martin asked.

Judson poured some whisky into a tumbler and handed it over.

" Drink this. I'll tell you. It happened about twelve o'clock this morning. I was upstairs working out some results. Sheilah was on the front lawn. She'd got a one hundred and eighty degree projector there and was trying out some smoke experiments. All at once I heard her scream. I thought she'd hurt herself somehow, and rushed to the window.

" She was down there on the lawn, and there was a man there too—a big fellow with a beard and ragged clothes. He'd got hold of Sheilah by the wrist and she was fighting like a demon. She screamed again, I shouted, and the man looked up. I just caught a glimpse of his face as I turned to bolt downstairs for all I was worth. It can't have taken more than a few seconds, but when I came out both Sheilah and the man had gone. Just as I arrived the two guards came pelting round the corner of the house. They were at the back somewhere when she screamed, and they'd seen nobody as they ran to the front. One of the assistants turned up a moment later. He'd seen the struggle from the workshop window, but like me he'd missed the end of it.

" The alarm fence hadn't been touched, so it was clear that they hadn't got out of the grounds yet. We split into couples and searched the place. Between us we went over every foot of the ground and the house and the outhouses as well. We didn't find a trace of Sheila or of the man. The lodgekeeper swore that the gate had not been open since half-past eleven. We know the alarm fence was in perfect order because we tested it. One of the guards suggested that the man might have climbed a tree and swung over the fence that way —it's not likely, because there are plenty of alarm wires about connected with the fence ; besides that didn't explain Sheilah's disappearance.

*" I sprinted my best for it, but I was no more than half way there—*

" We put the local police on to it at once. They've pulled in one or two tramps, but not the man we wanted. And so far they've found no trace of Sheilah.

" Whitehall's been on the 'phone cursing and swearing. They've got men watching the boats and the airports. I tell you, Martin, it's a hell of a business. There's no saying what they might do to her."

" They ? " Martin said.

" Yes, the people who've got hold of her. Don't you see what it means ? They'll think she can give them the secret of the annihilator, and there's nothing they'll stop at to get it."

" But can she ? "

" No. I wish to heaven she could. She's worked with it a lot, as you know, but I've never told her the basis of the construction—I thought it would be safer for her not to know. My God, what a fool I was ! If she could tell them, that'd be that. But if they think she's just holding out on them . . . There's damn little chivalry in the espionage business. Oh, Lord, what the hell can we do about it ? "

" But suppose she can convince them she doesn't know ? "

" The same blasted mess. They'll threaten what they'll do to her unless I hand over the process. Real ransom and no bluffs."

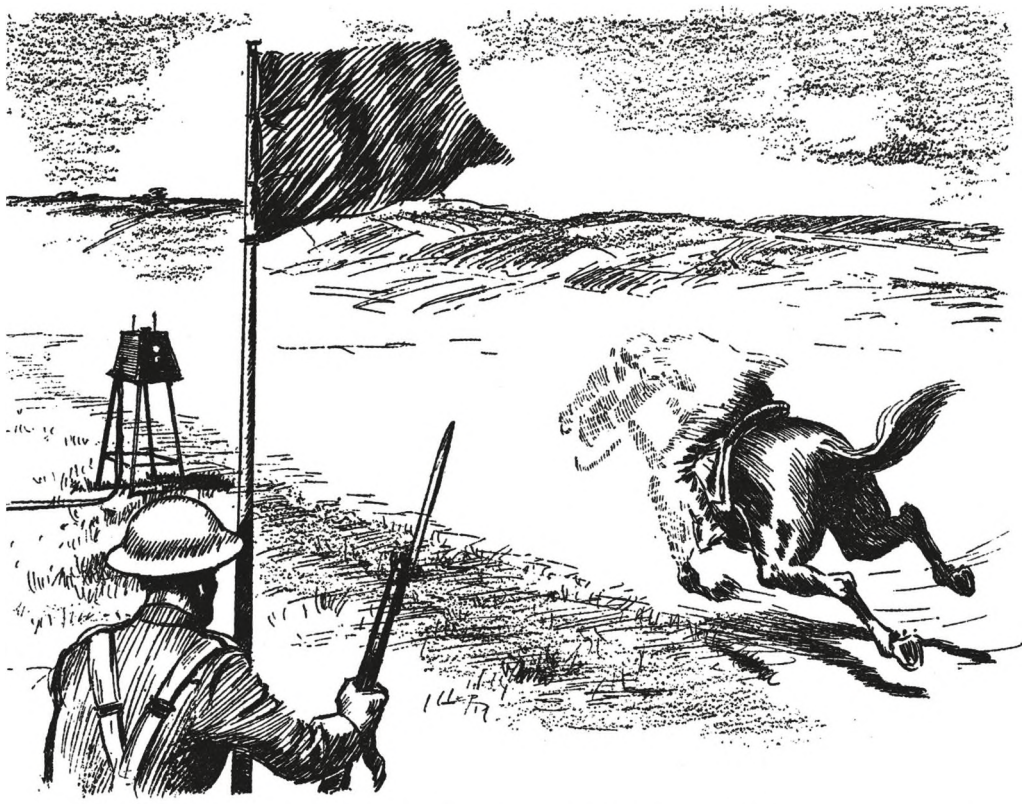
" But you'd let them have it ? "

" Good heavens, yes. They can have it now, for all I care. But think of our chaps. They aren't going to give in because one woman is being tortured. If I were to show the least sign of giving way they'd bump me off themselves to be on the safe side—this isn't a game, you know."

Martin thought.

" If I were to act as a go-between ? " he suggested.

" You'd have a fatal accident. Because you've come here to-night our chaps'll be prepared for just that. There've been one or two nasty accidents over this business already. God, I've



*—when the horse and rider ran clean into the screen and vanished."*

been over and over it and all round it, and I don't see that there's a thing we can do."

"But there's been no word yet. You're not sure that it is foreign agents who've got her."

"Who else? Look at the way the thing was brought off. It wasn't casual; it needed good hard planning. And I can't yet see how it was done." Judson poured himself another whisky and gulped it down.

Martin sat silent. His reasoning power was swamped for the present. Instead of thinking, he was looking at a series of fearsome mental images which he tried and failed to suppress. He felt stupid and half stunned.

When, some hours later, they went upstairs the idea of sleep was impossible; even to rest in a chair intolerable. For more than two hours he paced back and forth across the room smoking furiously. For most of that time his thoughts ran only in frantic circles, but later, as the first effect of the shock wore off, they began gradually, almost without his conscious knowledge, to trace a more orderly pattern.

At length, as if a storm had subsided, he found himself methodically laying out each aspect of the affair, considering it and weighing the probabilities. The important and the actual began to be disentangled from the suppositious. The final sifting left him at last face to face with an improbability quite fantastic. Oddly there came the memory of a passage in an old detective story, a Sherlock Holmes dictum, wasn't it?—"Eliminate the impossible and that which remains, *however improbable*, must be the solution." Something like that; and it must be true.

There was only one way out of the grounds which would leave no trace—Judson's screen. What way into the grounds would leave no trace? Was that also Judson's screen?

There had been the birds, the severed hand, and, still longer ago, the inexplicable oak branch. . . .

Surely the answer was that the annihilator did not annihilate. But what did it do?

With that question still in his mind Martin dropped on the bed and, surprisingly, fell asleep.

THE birds woke him. It was still early; soon after six. He crossed the room and looked out on the new late Spring day. The shadows still slanted, and the lines thrown by the tree-trunks barred the lawn below him. In the middle of the open space he noticed the projector Sheilah had been using yesterday. It had been switched off, of course, but no one had remembered to put it away. He stood motionless for five full minutes, staring at it, then, with his mind made up, he turned and left the room cautiously.

The machine was in order. He had been half afraid lest the lead to the mains might have been disconnected, but the red warning light flashed on as he pressed the switch. To make certain, he scrambled his handkerchief into a ball and threw it into the invisible screen. It vanished.

Martin stepped back a few steps and braced himself. Somewhere behind him a window opened. Judson's voice called in alarm:

"No. Martin. Stop it, you damned fool!"

Martin did not answer. He clenched his fists, put his head down, and ran full tilt at the annihilator's screen.

## CHAPTER 7

### The World Beyond the Screen

SOMETHING tripped him. He fell forward with a queer twisting, wrenching sensation, and met the ground with a thud which winded him. It was a full minute before he struggled, gasping, to a sitting position. Not until then did he realise that it was no obstacle on the lawn which had tripped him, and that he was no longer on the lawn.

The first thing to catch his eye was the handkerchief he had thrown through the screen. It lay beside him on a tuft of wiry grass. He stared at it a moment and then lifted his gaze.

He sat in an open space, a kind of gap in a hillside wood. Trees closed in his view on three sides, but in front the ground was clearer, encumbered only by shrubs and sprawling brakes of bramble. The slight downward slope enabled him to see over them into the distance beyond. The valley in the foreground was a sea of tree-tops; featureless save where some slight rise suggested a frozen green wave. Behind it, bounding the scene, rose a ridge of smoothly rounded hills. He gazed intently at them, following the contours: there was no doubt about it, however unfamiliar the immediate surroundings, they remained the same line of downs which one could see from Judson's lawn.

He turned round to look again at the trees near him. They grew haphazard, unthinned, and with little room to develop. Unrestrained ivy climbed to throttle them, and many of the trunks it had killed leaned on their still living neighbours for support. Among the boles was a choked undergrowth whence protruded occasional broken limbs of trunks slowly rotting in the tangle below.

Behind him the edge of the wood was only a few yards away. Nothing appeared to intervene between him and it. Thoughtfully he reached for his handkerchief; he crumpled it up and threw it towards the undergrowth. Five feet from his hand it whisked out of existence. A moment later it reappeared, materialising from nowhere, to flutter down beside him. He got to his feet. As he straightened another white object flew close past his head. He retrieved it; a piece of paper wrapped round a stone. On it was a hurried scribble in Judson's hand:

*"What's happened? Where are you?"*

Martin found a pencil in his pocket. He turned the paper over and considered his answer. He looked again at the line of the Downs. They told unmistakably where he was, but—— He shook his head and wrote simply:

*"Am all right. Will try to find Sheilah. Screen invisible from this side. On no account move it. Keep it going till we come back."*

He rewrapped the stone and threw it back. Leaving his handkerchief to mark the spot, he went to the tree and returned

with an armful of rotten branches. He broke them into smaller pieces and laid them carefully in a double row leading to the invisible screen. The thought that one had only to run up the path they marked to be projected back into the familiar everyday world gave considerable comfort.

So far he had acted in a dreamlike, half-automatic way, forcing himself to believe in the reality of the surroundings.

A little distance away a laurel bush lay on its side. The leaves were turning brown and the stem was badly mangled. He recalled Judson's demonstration the previous week-end. Not far away from it lay a curious wooden disc. He membered Judson saying that a half inch slice from the trunk of the dead tree had been removed—well, here it was. But where was it—and where was he ?

He stood still, listening. There was no sound but the rustle of the leaves in the light breeze, the song of small birds close at hand, and far away the call of a cuckoo. It was disturbing. In every place he had known, save on the tops of high mountains, there had been at least distant reminders of human presence ; the sound of a car, the distant rattle of a train, the whistle of an engine, something to give assurance that one was not alone. Here there was a sense of desolation.

He began a search of the open space. The result was disappointing, for the ground was too rough and dry to hold footprints. His movements sent up a lark which trilled into the sky, and a colony of rabbits bolted away in a flurry of bouncing white tails. The normality of their behaviour had a slightly cheering effect on his spirits. The ground, however, revealed nothing of interest until he drew towards the western edge, but there he came upon the faint suggestion of a track winding close to the fringe of the woods. It was not well trodden and showed little sign of recent use, but that it had been made by human feet was indisputable.

He paused uncertainly beside it. There was nothing to recommend which way he should take, though his instinct was to go downhill. To settle it he spun a coin : heads up, tails down ; it fell tails. He looked carefully round once more to fix the aspect of the place in his memory before he left.

SOON he was in the wood, travelling circuitously though with little difficulty southwards. It was almost possible in there to feel that his surroundings were normal. The light fell through the new leaves, bathing everything in soft green, rabbits and other small creatures scuttled invisibly through the undergrowth at the sound of his steps. More than once he felt that the experience of the morning was no more than a dream and that he would emerge at any moment to find familiar things about him.

But then he would notice again that the wood was not like any he knew ; that many of the trees were stunted and warped by crowding together, and a great number were diseased. And among them was such a tangle of bushes, bracken, brambles, and struggling saplings as he had never seen allowed to develop. It bore no signs of any attempts at clearance save occasionally at the sides of the path. From time to time he stopped to listen ; there was nothing to hear but the natural noises of the woods.

At the bottom of the hill he crossed a stream by means of a fallen tree, and picked up the track again on the further bank with some difficulty. He consciously realised for the first time that whatever else might have changed, the season of the year remained about the same. It was an unwelcome thought, for he was growing uncomfortably conscious of his hunger. He began to regret that he had not thought of asking Judson to throw food through the screen, but the idea of going back had to be dismissed for the present ; the meanderings of the path made the mile he had come into something more like three miles.

A short stretch of unexpected uphill led on to a sandy ridge where the deciduous trees gave way to pines. Among them was a pile of rubbish, grass and weed grown, but showing the ends of squared stones in places. He climbed to the top of it to get his bearings. To the north the wooden hillside was broken in several places by patches of grass, but he was unable to identify for certain the one on which he had

found himself. In the other directions stretched a plain of swaying tree-tops without a landmark : not a spire, nor a chimney, nor a power pylon showed above them. Far away to the east there was a smudge of smoke ; save for that nothing but the hills, the sky, and the trees—unending trees.

He descended to the path again and followed it doggedly. At the foot of the ridge a better-used path joined it from the right, and the two bore eastward as one, giving him hope that it must lead to a habitation of some kind before long. Down on the level the ground was moister and the increased lushness of the bushes shut him in, limiting his visibility to two or three yards in each direction. The discovery of the first clearing, therefore, took him completely by surprise. One moment he was imprisoned in the trees ; the next he stood looking over an open space of five or six acres.

HE stopped in astonishment, for the rectangular patch had not only been cleared, but tilled and planted. Rows of pale shoots which, as a townsman, he could not identify were already thrusting upward. He looked to right and left, half expecting to see bent figures at work, but there was no one in sight. Nevertheless, it was with rising hope that he went on, following the line which the path took straight across the field.

Half-way to the other side he stopped, staring down at the impression of a woman's heel.

It might, of course, be that of any woman's heel. . . . He wished he had thought to ask what Sheilah had worn at the time when she disappeared. Usually in the country she wore low-heeled brogues which might leave just such a print, but so might thousands of other shoes.

Its owner, he noticed as he went on, was not the last who had used the path. In many places the marks had been wholly or partly obliterated by shapeless impressions such as a soft slipper might make. Once, a little to the side of the main beat, he found the print of a man's boot with a plain sole and nailed heel. It made him curious, for he could find no repetition of it, and was irritably aware that to a man of experience the signs might read as plainly as a direction book.

His eyes were on the path, and he scarcely raised them as he passed from the field into the forest once more. He was unaware that there was any other living person near until a voice spoke suddenly close behind him.

He started violently and spun round. Ten feet away stood a young man in a soiled and much worn grey uniform who held in a steady, capable hand a large automatic pistol. Martin raised his hands instinctively, though he had not understood the other's words. The man spoke again. Martin shook his head :

" Can you speak English ? " he asked.

" Enough," said the other. " You will stand still," he added.

He stepped closer. The muzzle of the pistol pressed against Martin's solar plexus as its owner patted pockets and armpits experimentally. Satisfied that Martin was unarmed, he withdrew a pace. The contrast between them seemed to strike him ; he looked at Martin's suit, which was almost new though not improved by its recent treatment, and then down at his own shabby, clumsily mended uniform.

" How you are here ? " he demanded.

Martin thought quickly. " Least said, soonest mended," seemed to meet the situation best. The hows and whys had better wait until he was surer of his ground. :

" I don't know," he replied. " Something funny has happened. I was walking in a garden—then I suddenly found myself in the woods up there. I don't understand it. But," he added more aggressively, " I don't see that that gives you any right to threaten me with a pistol. What's going on ? Who are you ? "

He was doubtful whether the other understood much of what he had said, but it seemed the right line to take. The man was impassive ; he showed neither belief nor disbelief. After a few moment's consideration :

" You come with me," he decided, and waved his pistol to indicate that Martin should turn round. " You keep to the path. Not to run."

" But, look here—— " Martin began, more for the form of the thing than for any other purpose.

"You come," said the man with the pistol briefly.

THE language difficulty was a barrier. In the two miles or so of woods and occasional oases of cultivation which followed, the man spoke only to give directions where the path branched once or twice. Martin marched obediently, acutely conscious of the pistol behind him, pondering what its presence and that of its owner implied.

They arrived at their destination almost without warning. The trees ended abruptly as usual. A few scrawny-looking cows of no recognisable breed and some sheep of equally miscellaneous descent grazed on a meadow of rough grass. A small stream which crossed the place from north to south was bridged by a few trunks crudely squared and set together. Close to the farther bank clustered a village of wattle-walled, thatched huts.

They crossed the bridge, passed between two of the insecure looking buildings, and came out on an open space. It was a dusty oval of beaten earth which had the appearance of serving the inhabitants as town square, public meeting-place, and general dump. The inescapable first impression of the place was its smell. Each of the encircling hut dwellers appeared to dispose of his refuse by flinging it just outside the door, so that the whole place was fringed with heaps of reeking, rotting matter. Opposite some of the doors and in front of the main exits and entrances, the filth had been shovelled aside to leave a free path, and as these gauntlets were used swarms of gorging flies rose on either hand.

The few men and women who were to be seen were vastly outnumbered by the children who played in the dust or crawled adventurously over the heaps of filth. The smallest of these were naked, but the older ones and every adult in sight wore garments of coarsely woven, undyed, and, it would appear, unwashed wool. On their feet were cross-laced pieces of soft leather. The men were bearded more or less unkemptly, the lank hair of the women was mostly worn long and in plaits. None took more than passing notice of Martin and his captor.

Martin, in spite of the pistol, stopped, and then looked at the other in amazement. The man wrinkled his nose and shook his head.

"Swine. We teach them," he said disgustedly.

They turned to the left. Farther up the bank of the stream and well clear of the village they drew near a log-built house which, if not luxurious, was a great improvement on anything the village had shown. At the rear a clumsy, undershot water-wheel turned slowly. On a small, roofed veranda in front, two men in uniforms similar to his captor's were sitting in comfortable, crude chairs. The only other article of furniture present was a machine-gun mounted on a block of wood.

The man with Martin shifted his pistol to his left hand and raised his right in salute.

The other two, one verging on middle age and the other little more than a boy, rose and responded, though their attention was on Martin. The new arrival reported rapidly in what sounded like German, then all four entered the house.

The main room was lit dimly by two windows. There was no glass in them and they could be closed only by shutters of clay-filled basket work. Three or four chairs and a table ingeniously constructed from roughly-trimmed wood were set on the naked earth floor. The rear wall was in shadow, but Martin could make out a large wooden pulley which turned continuously, and the slow movement of the water-wheel beyond made a background of incessant creaks and groans.

THE senior man pulled a chair up to the table. He produced a notebook, opened it carefully, and fixed Martin with a direct gaze.

"Your name, occupation, nationality, and place of birth?" he said in fluent but throaty English.

"Just wait a minute," Martin objected. "I want to know what's happened first. Everything's crazy. A few hours ago I was walking in an ordinary English garden. Now the whole world's gone topsy-turvy. Miles of forest, no people, no houses—except an incredible

stinking hut village—and you. I want to know what's happened. Am I mad? You must explain."

The man at the table shook his head.

"I am not here to explain. You are an enemy subject and our prisoner. Your name?"

"Enemy subject! What do you mean? There's no war."

He was aware that they were all looking at him intently, seeming not to believe him. He went on:

"I tell you. I was in London yesterday. There's no war in Europe—and no immediate sign of it. There's trouble in the east and the Red Army is advancing in Brazil, but there isn't war in Europe. It's ridiculous to say that I am an enemy subject."

"You were in London yesterday?" his questioner asked slowly.

"Certainly I was." Martin put his hand in his pocket and pulled out some letters. "Here you are, look at them, look at the postmarks and see the date. May the fourth."

The man took the letters. All three bent over them and exchanged remarks. The leader looked up again.

"These may be genuine, but they do not prove that there is no war. Letters are delivered even in wartime."

"But I tell you——"

"War began on the fifth of November," the other interrupted dogmatically. "If, as you say, there is no war, when was peace made?"

"But war didn't begin then. It——"

"On the fifth of November the United States of Central Europe sent out an aerial fleet to bomb London. She did not declare war. It was the only means left to her of replying to the infamous economic war of aggression which had been waged against her ever since the incorporation of the States. It was an action of national and economic self defence. The real makers of the war are the international financiers, but if you are trying to tell me that England and France failed to reply with military action, then I do not believe you."

Martin had to check an impulse to explain in detail, but it was still safer to adhere to least-said-soonest-mended principles until he knew more. It might be unwise to display any more knowledge of the events of the night of November the 5th than the ordinary citizen could have gathered.

"But London was not attacked," he protested. He affected to think back. "I remember that there was some international excitement somewhere about then. It was said that the United States of Central Europe had lost a great number of 'planes on manœuvres, but the papers were never quite clear as to how many or what actually happened to them. However, it is quite certain that there was no war."

THE three men looked at one another. They were a trifle less confident. The leader turned back to Martin.

"Do you know how many 'planes were lost in these 'manœuvres'?" he asked.

"No," Martin admitted, "though according to the rumours it was a considerable number. The whole thing seemed to be kept as quiet as possible."

"I see," said the other thoughtfully.

After a moment or two of frowning contemplation he rose and crossed to the back wall, near the turning pulley. He did something there and began to talk rapidly in German. It took Martin some seconds to realise that the dark corner held a small wireless transmitter. After a short conversation he returned.

"I have orders that you are to be sent to headquarters for examination. As it is late to-day for starting, you will leave to-morrow at dawn."

It was an unpleasant suggestion. Martin had no wish to go to headquarters, wherever that might be. His object was to stay in the neighbourhood and search for Sheilah. But the subject of the girl was not easily broached. If he were to let it be known that he was searching for her his captors would immediately and rightly assume that his presence was not accidental. Once let that become apparent and they would do their best to find out how much he did know. That, considering the retrograde though effective means increasingly used of late to produce reluctant information, would not only be unpleasant for himself but might land Sheilah in danger, too. The situation was out of hand at present, and he could see no satisfactory means of dealing with it.

He shrugged his shoulders with a fatalistic acceptance.

"Then may I have some food?" he asked. "I've eaten nothing to-day."

## CHAPTER 8

### The City that Vanished

THE meal produced for Martin was of salted meat, served in a wooden dish, a bowl of chopped root vegetables, a few slabs of hard, dark bread, a little butter, and some cheese.

A woman, evidently from the hut village, made it ready for him, and Martin watched her curiously as she came and went between the table and an adjoining room. Like the others he had seen, she was not attractive to the eye. Her single, clumsy garment of undyed wool bore marks of long wear, and the only attempts to relieve its pure utilitarianism were crudely stencilled or blocked designs in a dark brown pigment at hem and neck. Her only ornament was a necklace woven of copper wire. The skin of her arms, legs, and face was brown from exposure, and her hair ill cared-for.

But despite the superficial neglect there was no slovenliness in her movements. They were quick and deft. With surprise he realised that she was much younger than he had thought at first. The shapeless dress had misled him, but as she stood where the light touched her face he could see that she was little more than a girl. He saw, too, a pair of alert, intelligent brown eyes with an expression as they met his own, which was partly curiosity and partly something he was at a loss to determine.

The leader of his captors and the one who had brought him had gone out together, leaving the third and youngest member of their party on guard. He looked about twenty-four or twenty-five, and a not ill-disposed young man. He was healthy and well-developed without being burly, with a look of straightforward honesty in his blue eyes. Though the fair hair was a trifle ragged in its trimming, the shave not perfect, and the uniform over well-worn, his manners suggested that the defects were due to necessity rather than carelessness. He politely informed Martin that for lack of table implements one had to make shift with a pocket knife, and inquired whether he minded smoke during the meal. Upon Martin's reassurance he deftly rolled some brown shavings into a leaf and lit them. An odour of autumn bonfires drifted through the room. Martin hastily offered a cigarette from his own case; it was accepted with gratitude.

Neither spoke again until the meal was finished. Martin, feeling the better for it, lit a cigarette for himself and set his elbows on the table. He looked thoughtfully at the other. The young officer, as he appeared to be, sat comfortably in one of the crude chairs. A large pistol holster at his belt was well in evidence, but his expression was not unfriendly and there was a slight twinkle in the blue eyes as they met his own.

"Well, you're a cool customer," he said, and only a faint trace of an American accent told that it was not an Englishman speaking.

"Bluff," Martin assured him. "In reality I'm an extremely bewildered customer, but there's nothing to be gained by my registering bewilderment. However, I'd be very grateful if you would explain just what's going on. For quite a long time I thought it was a nightmare, but I don't seem to be able to wake up."

"It is a nightmare," said the other. "But we've lived in it for six months and not woken up yet."

"This place," Martin said, waving an arm to include both immediate surroundings and far horizons, "where is it? It is unfamiliar, and yet it is not; I could swear that I know that line of hills to the south."

"Probably you do. They are the Forest Ridges, and beyond them, a little to the west, the South Downs."

Martin shook his head.

"That only makes the nightmare more nightmarish. We can't both be having the same hallucination. What's happened? What sort of unknown England is this? How can a countryside change in a flash from a well-populated farming and residential area to a land of forests and squalid settlements? How mad are we?"

"If we are mad, we are in company with several hundred men who have the same delusion," the officer told him.

" Partially," Martin agreed after some thought, " but not altogether. Here there seems to be a subsidiary delusion that England and the United States of Central Europe are at war."

The young man's expression became a shade less genial.

" That is not a delusion," he said. " It is a fact. And it is England's war. England provoked it. She has used her economic powers to debar the United States of Central Europe from foreign trade which is theirs by moral right. That is an act of aggression against my people. We do not want war, we fight only to defend our rights."

It was not the occasion, Martin decided, to be drawn into an argument on a subject which had long been the cause of bitter resentment between the democracies and totalitarian régimes in Europe. Tactfully, he shifted his ground.

" But this," he said again. " This primitive wilderness; is this the kind of England you are fighting? For goodness' sake what has happened? "

The man accepted the change of subject.

" I don't know," he admitted. " There are several theories, but—well, most of us just try to accept what's happened and make the best of it."

" But that's what I want to know: what *has* happened? "

The other hesitated a moment, then:

" I don't see why I shouldn't tell you as much as we know. After all, you're in the same mess—you'll have to live with us and like us. Can you spare me another cigarette or are you treasuring them? You won't be able to get any more, you know."

" Go ahead! " Martin told him, offering his open case.

OUR squadron—the young officer began—joined the main fleet soon after ten o'clock on the evening of November the fifth. We had only the briefest warning, for there are still traitors and spies in the U.S.C.E. We were summoned in the afternoon and the plan of attack was explained. After that no one was allowed to leave the aerodrome nor even to use the telephone. We could write short letters to our families and hand them in to a censor to be delivered the next day—and the censorship was severe, allowing only the most personal messages.

In the evening the machines were made finally ready and we waited for the signal to leave. Everything had been planned with precision. Just after ten we caught the first faint distant humming of the fleet. They were travelling fast. The noise grew quickly from a murmur to a throbbing, drumming sound which beat down upon us in waves. The whole world seemed to tremble with the noise of engines: never before had the sky been so full of sound. To hear it grow was exciting. One felt a surge of pride, a sense of overwhelming power at being part of such an irresistible force.

Our leaders signalled. We started our own engines and added to the sound which was the voice of the will of our united people. We could see the lights of the fleet now: hundreds of bright points moving towards us as if a new Milky Way had swum into the heavens. As they passed overhead we took-off and climbed to join them. There were no mistakes; everyone of us had precise orders, and we took up our positions on the left wing of the fleet according to plan.

As we flew on other squadrons joined us. Sometimes they came in to the flanks, at others, when we passed directly over their aerodromes, we could see them slide along the ground as they took off to climb after us.

There was little radio communication, but as we approached the frontier Franz, my observer, called to me that orders were for the whole fleet to extinguish navigation lights. The moon was up now and giving a clear light. Our line stretched out many miles to my right. There were 'planes ahead of me and 'planes strung out for miles behind: so great a number that as one looked across them there was a sense that we were stationary while the world revolved below.

Before long we caught sight of the sea. It shone as brightly as the moon it was reflecting. Occasionally we thought we could make out ships like tiny dark specks on the spangled surface.

Three-quarters of the way across the order came to divide. The right wing altered course and half the fleet fell

away, bound for the industrial cities of the Midlands and north. The rest of us held on for the Thames estuary, which would guide us up to London.

The coast when it came into sight amazed us. We had expected that at least a late warning of our coming would reach England before we could hope to arrive. But it appeared that the English are indeed sometimes as casual as they would like others to believe. The coast towns were fully lighted ; the lighthouses and lightships flashing as usual.

We were dead on our course, and as we made the estuary we could see the glow of London painting the whole sky a dingy red in front of us. Before long we could see the massed millions of lights and signs which caused it. There was criminal negligence somewhere in the English service. Clearly no news had come through about us, for not a district had dimmed. More amazing still, not a single British 'plane had climbed to intercept us. Franz called to me in a worried voice. He did not like it. Failing any other information, he said, the sound-detectors on the coast must have picked us up long ago, but not one gun had opened fire. He had a superstitious feeling that it was too easy.

Six bombers with their fighters were detached to attack Chatham. We went on. London lay open to us. The bombers would be at work now long before enemy 'planes could reach anything like our height. I did not feel as Franz did. The glittering, careless arrogance of the city just ahead angered me so that I regretted that I was not handling the bombs.

We began to extend for action, and it was then that the incredible thing happened.

My machine seemed to wrench and twist in a quite unfamiliar way. For a moment I thought that a wing had collapsed. It had not, but something had gone very wrong with the engine. It slowed suddenly, with a horrible grinding noise ; the 'plane shuddered all through with the jarring, then the whole thing seized solid. Simultaneously there was a shout from Franz in my earphones.

" It's gone ! " he cried. " *Herr Gott !* It's all gone ! "

I looked down. He was right. Every one of the millions of lights had vanished. All was black save for the gleam of the moonlight on the curling river. It was uncanny, a blackout beyond belief. Not a glare from a railway engine, not a flash from trams or electric trains, no lights of moving cars or of craft on the river, no glow from factory chimneys.

" No bridges ! " shouted Franz.

He was right about that, too. There was not a single bridge over the pale Thames. Even the river itself looked different from the map I had memorized that afternoon. The turns were not the same and there seemed to be lakes alongside it where no lakes should be.

I glanced hurriedly round. A large number of 'planes, seemingly in the same helpless state as ourselves, were dropping down. I saw three falling in flames. Another, with a collapsed wing, fell past us and disappeared, twisting and turning beneath. Some had already hit the ground, their cargoes of bombs exploding with tremendous concussions. But still up above us was a mighty throbbing of engines, telling that not all the fleet had been overtaken by the same fate.

I turned my attention to making the best landing I could.

WE were lucky, Franz and I. I made a pancake landing. The soft ground tore off our undercarriage. The 'plane stood on her nose for a second, and then fell back. We had a nasty shaking and I took a bump on my head. The next thing I remember was Franz offering me a flask.

" Pretty good work," he was saying.

After a drink we lit cigarettes. We could still hear the sound of engines up above, but it was faint now, and as we listened it gradually died away. I felt forlorn as silence closed in on us, and so, I think, did Franz. And what a silence ! It was as if the whole world were dead.

Here and there was a glow of burning wreckage. Out on our right came a sudden new burst of flame. As we sat we could see the fire run across the fabric of a 'plane and take hold ; for some seconds the frame glowed in ghostly outline before it collapsed.

Franz and I looked at one another. We knew what that meant. Orders were to destroy one's machine if forced down in enemy country. Nevertheless, we hesitated. We felt that there was something here that our orders had not reckoned with: we both felt it. A sense that the catastrophe was in some way uncanny. I looked questioningly at Franz; he shook his head.

"Let's get ready, but wait until they come," he suggested. "We can fire it at the last moment."

I nodded and made preparations. Franz looked to the radio in the hope that it might still be unbroken. As far as one could tell from inspection it seemed to have survived, but the aerial had been carried away, and it took him some time to rig up a makeshift. When he had done it and connected up his earphones he looked up at me with a grin of satisfaction.

"They're calling," he said.

I took one 'phone and listened too. A voice was saying over and over again in German: "To all 'planes forced down. Do not destroy machines unless attacked. Do not destroy machines unless attacked. All 'planes which have not previously reported will now report. Over!"

We reported our numbers, names, and the extent of the damage as far as we knew it. We received instructions to pass on as best we could to any machines in our neighbourhood whose radios were broken the warning not to destroy unless attacked. Franz and I were evidently not alone in thinking that something highly unexpected had happened, but as there appeared to be no other machines close to us and the ground round about looked too treacherously boggy for exploration in the dark, we settled down to watch and wait till dawn.

When the light became strong enough to show us our surroundings we were glad that we had stayed in our machine. The district was little better than a swamp. To the north, east, and west stretched a waterlogged plain. Tussocks of coarse grass covered much of it. Here and there were large shallow pools fringed with banks of reeds. In a few places the ground was solid enough to support trees, but none of great size. A mile or so to the south lay a low ridge of hills.

Franz and I examined our maps, and then looked helplessly at one another—nothing like this was shown on them. We gazed out across the swamp again. It was light enough now to see other 'planes dotted about; some were utterly wrecked, others disabled much as we were, but save for them there was no sign of civilisation. Not a chimney, not a house, not even a shed—not a sign that man had ever touched the place.

The radio got busy again. The senior officer from each 'plane was to report personally to the Air Commodore if possible. But with every machine there must remain at least one man capable of destroying it if necessary and of tending to any injured. The Commodore's position would be indicated by a smoke signal.

Five minutes later a thin column of greasy black smoke rose to the south-east of us. I made ready to go. Franz looked dubiously at the ice-rimmed pools among the tussocks.

"Sooner you than me," he said. "Go carefully. It's the kind of ground that can swallow a man."

I assured him that I was not going to take any unnecessary risks. After a very cautious journey to the edge of the rising ground it became easy.

MORE than a hundred of us came to that meeting, and a more bewildered lot of men never gathered. But even that pitch of consternation was raised by the return of a party of scouts. They had been sent to the hill-top with glasses and instruments. They showed us on a map the position their reckonings gave. They were unanimous in their figures, but more bewildered than we, for the point they had determined lay only a few seconds west of the Greenwich meridian, almost on the Kent-Surrey border. Where the swamp and marsh stretched out towards the northern hills should have lain the city of London.

One man who knew London well went further. He claimed that a hill upon which their glasses had shown them a cluster of huts among the trees stood in the exact geographical position of Lud-

gate Hill, and that a green mound farther west and close beside the river was identical with the position of Westminster Abbey. Furthermore, observations taken with a range-finder had supported him completely.

Well, you must know something of what we felt because you've been going through it yourself, but there was worse to come. The radio experts managed to get into touch with the part of the fleet which had not been forced down. It seems that after the sudden black-out about a third of our machines remained in the air unharmed. They did not understand what had happened to the rest of us, and were thrown into confusion. They lost their bearings, for though they could see the Thames, they could not identify any of the reaches. We gathered that there had been not only confusion, but a near panic. It was not clear who took command, but someone had ordered a retreat.

On the way back they dropped many of their bombs in the sea to lighten the machines. They saw no ships' lights. The Belgian coast was in complete darkness, and—most worrying of all—their radio could not make contact with their bases. The ether was dead save for communications between themselves.

They crossed an utterly blacked-out Belgium flying entirely on their instruments. They crossed the Meuse still without answer from their bases. Beyond the frontier they found their country as black as Belgium had been—incredibly and deathly black. In spite of desperate messages, not a landing-field was lit. Orders went out for the survivors of squadrons to make for their own aerodromes. The main part of the fleet headed on towards the capital.

They found the river familiarly turning and twisting northward—but the capital they did not find. Small attack 'planes scouted as low as they dared, flying up and down the river. They reported that there were no buildings to be seen; only great forests which grew to the water's edge.

Reports came in from the detached squadrons. They too had been unable to find their bases.

There seems to have been a period of frenzied search up and down miles of the river for any familiar marks. Then petrol began to run short, and the last order was: "Every man for himself."

Now they were in a worse state than we were. Most of the men had taken to parachutes and were scattered over a large area without means of communication. They believed that almost all their 'planes were total wrecks. The bomber in touch with us had been lucky. It was resting in the tree-tops two or three miles from the capital—but where the capital should have been there was nothing but a dense forest.

## CHAPTER 9

### Strange New World

THE German pilot went on to tell Martin of the days and weeks which followed. Of the systematic scouring of the marshlands and the collection of the injured. Of exploring parties which returned to report that the plains and valleys beyond the hills were choked with forests, and that the only inhabitants were savages dwelling in scattered villages of huts and armed only with bows and spears.

He told of the decision to set up a camp on the high ground. How every aeroplane and every part of a machine had been laboriously collected into a dump, and how ten men had sunk and been lost in the swamp during the work. Of the shortage of food. How wild sheep, cattle, and horses, as well as innumerable rabbits, had been stalked and shot to keep the six hundred and thirty survivors alive. Of the selection of the camp site on the south side of the hills. And of the days of toiling, sweating portage while every scrap of salvage was born on men's shoulders from the dump to the new camp.

He described the building of the camp; the making of tents with fabric from fuselages; the building of huts with the wings of 'planes; the construction of a windmill to work dynamos for radio and lighting—and how when propellers proved too heavy for the light wind they had built mill-sails from fragments of wings. The erection of a second mill to pump water into a reservoir of adapted petrol tanks; the making of stoves because of the danger of open fires in the

flimsy camp ; the reconditioning of two of the less damaged 'planes and the careful conservation of petrol for them in case of need ; the continual problems of food supply, and the endless speculation on what had happened.

It was the improved radio erected at the camp that helped to steady their opinions. Hitherto, attempts at explanations had ranged from the higher mathematical to the mystical and frankly superstitious, but the new radio revealed interesting facts. Others were in the same plight as themselves not only where their capital should have been, but also somewhere in Norfolk or Suffolk where a great part of the fleet bound for the Midlands and North had been forced down. And far away in Malta and Sicily the remnants of their other fleet were battling against similar primitive conditions.

The inference to be drawn from that was inescapable. The two fleets had set out for the same purpose ; it could be no natural accident that an identical fate had overtaken them both so far apart. Clearly the British had somehow been instrumental in bringing the state of affairs about.

It was easy to say " somehow," but it was far less easy to put forward a convincing theory of how they had done it or even to say exactly what they had done. Most of the victims admitted frankly to being baffled, though that did not prevent them from expressing views ; others debated with the detachment of philosophers and scientists.

Out of the early welter of speculation it was Ernst Gröner who emerged with the greatest following. He was a physicist of considerable standing, and unsubstantiated though his theories were, they did recognise all the known facts, which was more than could be said for some of the rival schools of thought. Gröner, basing his view on the conception of extra-dimensional time, held that it was not less possible theoretically to project an object into free-time than into free-space.

But he claimed that just as the expression " free-space " was in fact inaccurate, since a body situated in space must of necessity be held there by certain forces, so the expression " free-time " was inaccurate, or only relatively accurate. There would be stresses at work which for lack of a better word he called time-gravitational attractions. If a rocket were shot into space at random it must either fall upon some sun or planet or settle into an orbit determined by their pull ; it would not be free. Similarly an object projected into space-time would not be free ; it would gravitate to a certain point determined by the conditions of its projection. The mental image of time as progress along a line from a beginning to an end, such as lay in most people's minds, was a misconception and a barrier to a better understanding of its nature.

As a rough though admittedly faulty analogy, he instanced the state of a gramophone which has been suddenly jolted. The machine still plays, the record is the same, the needle is still in the sound track—but it is in a different part of the track.

They had, he maintained, flown into something which had jerked them into another groove—or, rather, another part of the same groove.

As an explanation of the fact that some of the 'planes had suffered and others not, he suggested that the instrument causing the jerk was some kind of active field, and that those which had encountered the field head-on had survived partly or entirely unharmed, whole others, touching it obliquely and remaining for an appreciable period half in and half out of its influence had suffered since the revolutions of the two time phases though similar did not exactly coincide.

That, Martin's informant admitted, was about as far as he had been able to follow Gröner's theory. The mathematical backing of his arguments, though it impressed those who knew about such things, had conveyed little to him.

MARTIN listened without comment. He had to be careful not to give himself away, while at the back of his mind he was wondering how Judson would take the theory. It could explain a number of puzzling points. The notion of the slightly dissimilar rotation of the two time phases, for instance, offered a tenable explanation of the odd way in which the sticks held in the screen

had been broken off. That sounds were faintly audible through it might be due to air passing through in pulsations and thus transmitting the sound.

The other was going on with his tale while Martin pondered :

" After a short time we realised that it was becoming too difficult to feed all our six hundred and thirty men in one place, so it was decided to decentralise. Small parties were sent out to villages like this. We three are fed by this village, we also collect taxes in the form of food and send them to headquarters. It comes unfortunately hard on the people this year, but we are taking care to see that there is more planting and cultivating so that next winter it will be better both for them and for us.

" Up on the hills we have some men who hope that it will be possible to work out a good strain of sheep in a generation or two. In each village we have a water or wind wheel which gives us light and power to work a radio taken from one of the 'planes. It is dull work at first, but later, when we can become industrialists instead of farmers, it will be more interesting."

" And the natives ? " Martin asked. " How do they take all this ? "

" Oh, they don't like it at present, of course. You could hardly expect them to. So far we've been taking all their time, and we've not been able to give them any of the benefits of civilisation in return yet. But they're a peaceful lot on the whole and don't give much trouble."

Martin underwent a sudden change of mood. The utter impossibility of the situation came over him with a rush, swamping his acceptance entirely. He frowned.

" But this gets more fantastic than ever—I mean, it just can't be so. This is England, and I have no alternative to offer to your time theory. But if you are going to make these changes and build up a civilisation there'll be something left to show for it ; some signs of your influence are bound to remain."

" Of course. If not, why should we do it ? "

" But they can't, they don't. Archæologists would have found at least traces of them."

The young man looked puzzled, then his face cleared. He laughed.

" Do you mean to say that you've been thinking that these dirty, hut-dwelling savages are your ancestors ? "

" But isn't that what you've been telling me ? " said Martin perplexedly.

" Heavens, no, man. They're your descendants."

## CHAPTER 10

### People of the Dark Age

THEY talked on through the afternoon. Martin learned more of the discoveries his captors had made : of the sites of prosperous towns now marked only by grass-grown mounds, of cities fallen to the last wall before the thrust of the forests, of the altered coastline and the houses which had vanished into the sea, of roads where powdering concrete had given way to the power of living roots, of railway embankments which were like living palisades, of cuttings which were choked ditches, of rivers which had changed their courses, of pastureland which was now swamp, and of London which had sunk beneath the marsh.

How long ago, he wanted to know, had all this happened ? The pilot could not tell him that. Gröner had made astronomical observations, but they lacked tables and figures with which to compare them. The best they knew was that a very long time ago civilisation had gone—gone from all Europe, and therefore from all the world to leave another Dark Age ; darker and longer than ever before.

The stranded men had little hope of getting back. Gröner had pronounced it unlikely, if not impossible. Even if they had known the nature of the machine which had jolted them from their particular groove of time and had the resources to make it, he was convinced that from its position in the time cycle it was able to work only prospectively and not retrospectively. History, he said, could never have been written if it were possible for men to construct a machine to carry them into the past.

During those parts of their talk which dealt with the machine, Martin had to hold himself constantly in check. One

slip of the tongue showing that he had the least knowledge of it would expose him to the inquisition of six hundred desperate men. Several aspects which he would have liked to question could not be introduced for safety's sake. And still, throughout all the pilot's talk, there had been no reference to Sheilah or to any other newcomer but himself.

The other was in the middle of describing the changes which had taken place in various edible roots and cereals when Martin realised that they were no longer alone. Looking up, he saw that the girl who had brought the food was standing some six feet behind the opposite chair. How long she had been there he could not tell. She caught his eye, laid a finger on her lips, and nodded at the back of the unsuspecting airman. Martin, glancing back quickly, saw that his momentary inattention had gone unnoticed.

" ——and the turnip," he was saying, " is very unlike the fat round turnip of our time. It has lengthened and become more like the carrot in shape, while the carrot itself has—— "

But Martin was not paying attention to the evolution of the carrot. Out of the corner of his eye he was watching the girl. Not a sound betrayed her, but she was drawing closer to the man. In her hand she held a square of rough woollen cloth. When she was directly behind him she paused and lifted the cloth. Martin edged forward on his chair, and sat ready. The young airman was still talking :

" Whereas the potato—— " but the sentence went unfinished.

The cloth fell over his head. Martin was round the table in a flash. His left hand grabbed the hand which went to the pistol holster. His right shot up to the man's jaw. There was weight behind it, and the other fell limply back in his chair. The girl backed half frightened across the room and beckoned him urgently. He delayed only long enough to take the pistol before he followed.

She led the way through the inner room, scrambled through its glassless window, and dropped crouched into the grass beneath. When he had joined her she raised her head and looked cautiously about, then, with a tug at his sleeve, she slipped away to the left and down the bank of the stream. Martin followed without hesitation, and bending low to keep beneath the level of the banks trudged against the current behind her.

They kept to the stream for two hundred yards or more, until they were well screened by the woods, then they climbed out on the farther bank. Still the girl said nothing, but beckoned him on. After thrusting through a few yards of bushes they came upon a narrow footpath. She stopped and pointed along the path to the north and the hills behind. Then, still without a word, she turned and went back swiftly by the way they had come.

Martin stood without moving for some moments. The whole affair had bewildered him by its suddenness and unexpectedness. What reason could she have for rescuing him, a stranger, from people who were, after all, more kin to him than she was ? Yet her manner showed that she knew what she was about : lacking any other advice he could do no better than to follow hers. He started towards the hills.

A quarter of a mile farther on a movement to one side of the path caught his eye. He levelled his pistol at the bushes.

" Come out of that," he ordered.

" You needn't shoot me, Martin," said Sheilah, as she stepped on to the path.

" WE shall have to stop somewhere till it gets light," Sheilah said.

Little as he liked the idea, Martin had to assent. The light was failing fast : beneath the trees it was already so dark that the way was hard to see. They must be, he reckoned, about halfway up the hillside by now, though hemmed in by the trees as they were it was little better than a guess.

Their plan was to make for the hilltop first and then make west. When they were above the space where the annihilator stood they would turn downhill again and come to it from the north. It was a longer way round, but the certainty that the pursuit would have set out along the lower path as soon as Martin's escape was discovered forced them to take it.

They left the track reluctantly at a

point where the trees were thinner. In a few minutes they were safe from the chance sight of anyone using it, and Martin was breaking off small branches to make a couch.

" And now," he said, sitting down beside her, " perhaps you'll be good enough to explain just what's happened —and how you come to be capering about in that fancy dress."

Sheilah looked down at her clothes. There was still light enough to show the clumsy, smock-like dress of unbleached wool and the crude, soft leather sandals on her feet.

" It's not becoming, is it ? " she said. " But it couldn't be helped."

"Explain," demanded Martin. " This affair's gone all wrong. I set out as a rescue party of one after you ; and end up by owing my own rescue to you. It's all thoroughly untraditional."

SHEILAH chuckled.

" All right, but I expect you've guessed all the first part. How that great bearded brute suddenly appeared while I was experimenting, and dragged me through the screen after him ? "

" Yes, I imagined that was about what had happened," Martin admitted.

" Well, the next thing I knew, I was sprawling on the grass. He'd fallen too, but he was still holding my wrist. After half a minute or so he got up and dragged me up with him. He stood staring at me in a puzzled way, as if he didn't quite know what to do next. His mind evidently worked slowly, but mine was going quickly. I looked over his shoulder as if I could see someone coming, and he fell for it right away.

" As he turned his head I bent and bit his arm and wrenched my hand away. Then I turned and ran towards where I knew the screen must be. The yard or two's start I had should have been enough ; it could not be much more than that from where we had fallen. In a few steps I should have come back on our own lawn, but I ran twice as far as I expected, and nothing happened. I stopped helplessly and let the man catch me, for I guessed why it was. Somebody had heard me call, and the first thing he had done when he got to the lawn was to turn the projector off and destroy my chance of getting back.

" The bearded man was more careful after that. He kept hold of my wrist until we were well in the woods, and then he made me walk in front. We went quite slowly. He seemed to be dawdling on purpose : in fact, he was. After we had gone some miles and crossed a cultivated field he deliberately turned off the path and waited there till it got dark. Before we went on he tied my wrists together, put his finger on his lips, and pressed the point of a very sharp arrow against my back. We came into the village quietly and got to one of the huts not far from the bridge, without meeting anyone.

" It was a filthy hovel and the smell of the whole place was nauseating. He lit a few sticks in the fireplace to give us some light, then he made me sit down on a dirty pile of straw, and fastened my ankles together with coarse cord. After that he freed my hands and gave me something to eat : it was nasty stuff, but I was hungry, and I ate it.

" I found that I was less afraid of him now. Whatever he intended to do, he showed no signs of being ill-disposed towards me. Evidently he had some plan which involved keeping me hidden, and I tried to find out what it was.

" When I talked, he listened with a puzzled expression. And I was as perplexed by his reply, for in amongst it I heard a few intelligible English words though they were twisted by an unfamiliar pronunciation. It wasn't easy to get meanings across, but we managed to make a few things clear to one another. I understood, for instance, that I was not to show myself outside the hut or it would in some way be the worse for me —though just what would happen was not clear. But I could not discover what he intended to do, nor who he and his people were. After an hour or so he seemed to get tired of trying to talk. He tied my wrists together again, and with a final warning against being seen or heard, he left me. Not more than two or three minutes after he had gone out a girl slipped in.

" She was the girl who helped you this afternoon. She stood in the middle of the beaten earth floor looking down at me with interest, but without surprise— which suggested that our arrival in the village had not been so secret after all.

We faced one another for a while, then she began to speak carefully and, to my astonishment, in German."

"WE talked for perhaps two hours" Sheilah continued. "Many of the things I wanted to know she couldn't tell me, but she did explain a great deal which had been perplexing me. And I learned something about her.

"She was the wife, according to tribal custom, of the man who had brought me there. The hut had been her home until four months before, when the three airmen had come. She could not tell me where they had come from, but by this time I had a pretty good idea. Not long after their arrival the leader had noticed her and suggested a change of domicile. Apparently without hesitation or scruples she had gone to the stranger, leaving her husband to shift for himself. She had, she said, never thought much of him, anyway.

"There was very little fuss about it. Whatever the village people think of the airmen's intrusion, they are awed by them and too much afraid of their weapons to object actively to anything they may decide to do. They gave a demonstration of pistol practice soon after they came, and that was enough to make even an outraged husband think twice before starting trouble. So the girl continued to live peacefully with the leader.

"But that did not prevent her from keeping a prudent eye on her ex-husband's behaviour. She had no idea what was in his mind concerning me, but she meant to find out. For the present she warned me against trying to escape. It was unlikely that I would succeed in getting clear of the village unseen, and if I did I should be unable to find my way through the forests in the dark. With that, she left me, promising to come again next day.

"The bearded man returned not long after she had gone. He barely glanced at me. After throwing some wood on the fire, he lay down on a pile of straw on the other side of the room and went to sleep.

"The next morning—this morning, that is—he got up early, gave me a bowl of a kind of porridge, ate some himself, and then went out. And that's the last I saw of him.

"I expected the girl to come during the morning, but neither she nor anyone else visited the hut. The smell which rose from the village under the sun began to make me feel sick; and I was getting very thirsty, too. I managed to wriggle my hands free and loose my ankles without much difficulty, and was tempted to make a dash for it. But the two things which held me back were that I was completely unarmed if the village people were to attack me, and that, considering all the circumstances, I was particularly anxious to avoid being seen by the Germans. So I just had to wait impatiently.

"It was afternoon when the girl came at last. She said she had been delayed by the arrival of a new man whom the rest called an Englander. There wasn't much difficulty in recognising you from her description. Also, it had taken her some time to discover her ex-husband's little plan, but she had succeeded, and it amounted to this. He had decided that I, having obviously more in common with the invaders than she had, would make a more acceptable mate for the leader. His idea was to buy his wife back again in exchange for me.

"Well, I don't know what the leader would have thought of it, but the girl and I thought very little of it. Not only had she become attached to the leader, but her position gave her great prestige in the village, and she did not intend to lose it easily. Her immediate object, therefore, became to get me out of the way, and as mine was to be got out of the way, we were at one about that.

"She had brought me this dress and sandals like her own, so that I could at a distance pass as one of the villagers, and the only hesitation I felt about changing into them was on account of their being so very secondhand. It didn't take me long to do it, and then she was ready for us to leave—but I wasn't, quite.

"'Look here,' I told her in German, 'I'm as anxious to go as you are to get rid of me, but this Englander is a friend of mine. If I go, he goes too. You've got to get him away somehow, or you don't get rid of me.'

" Apparently it never crossed her mind that the leader might, if offered the choice, prefer her company to mine. She had taken the opposite view flatteringly for granted, just as her ex-husband had.

" She looked distressed.

" ' It will be difficult,' she said.

" ' All the same, it's got to be done,' I told her. ' If you don't bring him to me, I shall come back.'

" And—well, it took her some time, but she did it. I don't know how, but you do, so it's your turn to do the talking for a bit," Sheilah ended.

## CHAPTER 11

### Escape to the Present

MARTIN woke while the sky was still grey and the sun not yet risen. He was cold, and as he moved to ease his stiffness Sheilah opened her eyes.

" I should like some coffee and toast," she said.

" And bacon and eggs," he grunted. " As it is, we go hungry on our way. Come along."

It was more than an hour after sunrise when they reached the smooth grass near the top of the hill. They climbed no more since there would be a risk of exposing themselves on the skyline. Instead, they turned west, keeping along the flank of the hill, a little above the tree level.

" Last lap but one," Sheilah said.

But Martin did not feel quite as hopeful.

" It's not going to be so easy to find the place from this side," he said, looking down the slope.

Seen from that angle there was no hint of the occasional spaces ; the trees appeared unbroken. But Sheilah refused to be discouraged.

" If we keep on until we see the opposite hills just as they look from the garden, and then go straight down, we shall be all right," she said.

He hoped that she was as confident as she sounded. The aspect of the hills was their only familiar landmark. If her memory should play her false or if rain were to blot out the view, they would have to get down to the lower path and risk being seen as they tried from that side.

It was easy going over the open ground ; a light breeze was in their faces and an early morning freshness put a better complexion on the world. At one point Sheilah paused, looking at a few burrows ; rabbits had just scampered over their chalky thresholds and disappeared within. She patted the close, springy turf with her foot.

" This at least is unchanged," she said. " The same now as in the twentieth century. It was like this when Julius Cæsar came and thousands of years before that."

" Except for the rabbits," said Martin. " I ought to have realised before that they weren't here in Cæsar's time."

" Weren't they ? Somehow, I thought they'd always been here. But this turf was ; just as it is now. And what century is ' now ' ? "

She looked out across the forest again.

" I wonder what will happen ? " she added, as they went on. " Do you think they'll climb out of all that jungle once more ? I suppose so. And those airmen that Tommy's machine sent here will help them—that's an odd thought, isn't it ? Perhaps in a thousand years the forests will be a few well-tamed woods again, and there'll be towns dotted about in the valley. And later on there will be aeroplanes flying over here once more. And what then ? Will it all happen over again ? "

" Do you think so ? " Martin said. " Do you think those people in the village could ever build a civilisation ? Think of what was and look at what is. Surely people who have degenerated as far as they have can have no vital force left. I fancy they'll just linger on for a few hundred generations, growing more enfeebled till they die out. And that will be the end of the story of man—a queer sport from the anthropoid stock, a creature which multiplied till it covered the world, upset the natural balance of flora and fauna, changed the face of the globe with its ingenuities, and then vanished. To give place to—what ? "

Sheilah disagreed thoroughly.

" Degenerate ! " she said indignantly. " What do you mean by degenerate ? Would you call the survivors of a shipwreck degenerate just because they weren't killed with the rest ? Those people in the village aren't degenerate.

They've just been thrown back into primitive conditions, so they behave like primitive people—that's quite a different thing. They are the survivors of a shipwrecked civilisation living as best they can until they begin to build again."

Martin frowned. First he had thought of the villagers as his remote ancestors, then as the dying remnants of the race; now Sheilah came with a new view.

"I don't see that you've much ground for that," he protested. "All that filth, and the disgusting conditions—— "

"Come from ignorance and disorganisation," she said. "They have forgotten so much in their struggles to keep alive. Forgotten even how to read and write, so that they can't hand on knowledge to the next generation. But they've not forgotten everything. They've still got legends. That girl told me some of them yesterday evening.

"They've got a legend, for instance, that men were once so numerous that they had to live in huts piled one on another up to the sky so that enough land might be left free to grow food for them. And another of huts which could travel from place to place with people inside them. And another of the giants who dug bottomless pits in search of a black rock which burned. And heaps of others. No, they aren't savages. They know things were better once. Did your airman friend tell you their tale of how this state of things came to be?"

"No," Martin admitted.

"WELL, the girl told me," Sheilah said. "It's the story of the devil-birds that lived in the land beyond the sunrise. It seems that the devil-birds' lands were also overcrowded. The devil-birds had built nests on top of one another as the men had built their huts, but they reached the sky and couldn't go any further. They began to want to build and to lay their eggs in the lands this side of the sunrise. But the men said no. They wanted all their land to grow food on for themselves and their children, and said that the devil-birds would be shot if they came.

"But the devil-birds went on complaining about overcrowding and at the same time laying more eggs and hatching out more families until their land could not support them. Then they came across the sunrise. They came in flocks so huge that they filled the sky, and they roared with anger so that the whole world trembled. They spat fire on to the land below. So mighty were their droppings that the earth staggered as they fell and the piles of huts were shaken down. A vapour arose from the droppings so terrible that all who breathed it died at once. They scattered poison into the sky, and the sky poisoned the earth. Then the devil-birds went back, but the poison stayed. It was in the air, in the water, in the food. The skins of men and women who took the poison came out in black patches. They went mad and died in agony—and the next day all their friends and families showed the black patches, and the braver ones killed themselves because they had seen what was going to happen. People died by the thousands, by the millions.

"Only a few small islands went untouched by the plague—places where the prevailing wind was off the sea, keeping the poisoned air away. The people on the islands shut themselves off from the mainland and from one another, and waited. Some of the smaller islands could not support their inhabitants, but any men who could be found brave enough to go to the mainland did not return. So the islands' communities grew less, though they hung on. The legend says that it was several generations before at last a man returned to tell them that it was possible to live on the mainland again. Probably that's an exaggeration, but it implies a long time, and there were pitifully few of them left. Anyway, it shows you what I mean by the survivors of a civilisation."

"Gas, disease-bombs, air-born bacilli," said Martin.

"Yes, a plague, started deliberately and then getting out of control—probably by an unexpected mutation—so that it spread everywhere, wiping out its creators as well as their enemies."

"Could it? It seems impossible. It may have been some local affliction greatly exaggerated—I mean, think of the tales of the Flood. After all, it's only a legend."

"Only a legend," she agreed, "but it's a remarkable legend for a simple people to have invented. Have you a better

means of accounting for all this ? " She waved an arm to include the whole wilderness of forest.

They walked on for a time in silence.

" Then Juddy's Annihilator did not—will not—stop war," Martin said at last.

" No. It's just another new weapon to be counteracted," Sheilah said.

" And the people in the village—I wonder if they will grow up to destroy themselves in the end ? "

" Who can say ? Their minds may develop differently ; they may lack this suicidal will to war. They may consider the fighter a dishonourable man and a bad citizen. They may, unlike us, see their danger before it is too late. Perhaps they will."

" But you don't sound very hopeful."

" Hopeful ! Why should I be hopeful ? Hasn't civilisation after civilisation climbed up and then fallen down this sink of war ? I thought that in helping Tommy I was doing something which might help to change all that—now I know I wasn't. It makes me feel that the whole stock is tainted." She turned to look up into his face. " I will marry you, Martin, if you still want me. But I don't think I want to bring children into this kind of world."

SHEILAH stopped, and pointed across the valley.

" This is far enough. You see those two hill crests exactly in line. That's how they look from the hill behind the house."

" There should be a path," Martin said. " There was one going up from the place."

She nodded. " I remember. It ran up the west edge. Let's look a bit farther on."

They found a track emerging from the tree belt a hundred yards farther. It was little used, but there was no other, and they took it. The earlier breeze had died away, and the woods were very still about them as they descended. Martin, pistol in hand, led the way silently. It was safer, he thought, not to talk.

The track wound to take advantage of open ground, and they passed cautiously down the sides of two spaces similar to, but smaller than the one they sought. At the edge of the third Martin stopped. He could see the head and shoulders of a man who stood in the open. Sheilah touched his sleeve.

" It's the man who caught me," she whispered.

He nodded. The man had known where to come. There was not much to be feared from him alone ; the question was, had he brought the airmen with him ? He could see little without exposing himself.

The projector, he remembered, was not far from the top end of the open ground. To make a way through the trees to the left would bring them nearer to it and also give a better view of the whole place. He urged Sheilah a few yards back along the path, and then turned off.

The going was bad. Brambles and thorn bushes tore their clothes and faces. After a yard or two Sheilah's legs were lacerated and bleeding, and her hair was continually tangling in small branches. In spite of their care, Martin felt that a herd of cattle could scarcely have made more noise. After twenty-five or thirty yards of zig-zagging to avoid the worst thickets he led the way downhill with still more caution. Sheilah kept close behind. Progress was slow and painful. At last he reached a point where it was possible to look out between the leaves.

He could see the double track of dead branches he had laid to mark the path to the screen ; the screen itself should now be between him and them if Judson had obeyed instructions and kept it up—a bare thirty feet from the top fringe of bushes. The bearded man was also visible. He stood in approximately the same place as before ; a little to the right of them, while the screen was a little to the left. But he was not waiting idly now. He was gazing intently towards them.

Martin turned his head slowly to whisper directions to Sheilah. She rose on tiptoe to see the ground beyond, and as she moved a branch went off like a cracker under her foot. The effect on the bearded man was immediate. He waved an arm at someone out of sight farther down the hill and started towards their hiding-place.

There was nothing for it but to make a dash. Martin flung himself through the last few yards of bushes. The oncoming

man threw something which whizzed past his head—there was a thud just behind him. He fired wildly and saw the man stop. He glanced back to see Sheilah lying where the missile had felled her.

As he picked her up he caught sight of the three airmen racing up the hill towards him, beyond the screen. Holding Sheilah, he ran headlong down the hill in their direction. He saw them come to a stop, looking puzzled. Then the sun seemed suddenly to leap higher in the sky. There was the same strange twisting fall that he had felt before. Trees and sky whirled before his eyes—and he dropped on a smooth lawn.

MARTIN scrambled to his feet, and staggered. There came one last message from the world beyond the screen: a bullet whistled past him, ricochetted from an iron seat, and broke a window in the house behind.

He reached swiftly for the switch. The red light winked out. The screen was down.

He picked Sheilah up in his arms and walked to meet the men who were running from the house.

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# CONTRIBUTORS TO "FANTASY"

**JOHN BEYNON** Is the pen-name of John Beynon Harris, born in Warwickshire, thirty-five years ago. Wrote his first "scientific romance" at the age of thirteen and incorporated in it every known instrument of war and some unknown (including a flying armoured-car and a device for shooting large fish-hooks and lines at Zeppelins). After school, tried farming and learned something about sheep. Started to read law, and learned more about sheep. Gave that up for advertising and learned a great deal about sheep. Collected rejection slips for five years, and in 1931 began to write scientific fiction for U.S. magazines. Author of books "The Secret People," 1935; "Planet 'Plane," 1936 (Geo. Newnes, Ltd.). Has also written several detective stories, but prefers to write fantasy.

**JOHN RUSSELL FEARN** Thirty years old, short slim Lancastrian, is well known on both sides of the Atlantic as one of the leading science-fiction authors of to-day. Wrote his first story, "The Planet Tracker," at the age of ten and has been writing science-fiction practically ever since, despite early interruptions when he became, in turn, confectioner's assistant, auctioneer's assistant, solicitor's clerk, and amusement park worker. First story to appear in print was "The Intelligence Gigantic," published in America in 1933. Now one of the most prolific authors in the field and known for the daring originality of his plot-conceptions, he hopes that "some of the things I've pictured will never come to pass." Lives at Blackpool with his mother; recently tried moving to Brighton, but "couldn't stand the climate."

**P. E. CLEATOR** A.M.I.R.E., A.M.I.E.T., F.R.S.A. First became interested in astronautics—the science of space travel—some ten years ago, and in 1933 founded the British Interplanetary Society of which he is now Vice-President. "Rockets through Space," his recently published book, is his latest achievement in a long campaign of writing and lecturing with the object of arousing public interest in the possibilities of interplanetary travel.

**J. E. GURDON** Is an authority on aviation and a veteran expert in the formidable science of aerial warfare. Was seconded from the Suffolk Regiment for service with the Royal Flying Corps in 1916, and as a fighter pilot on the Western Front gained twenty-one victories in air combat. War souvenirs include two wound scars and the Distinguished Flying Cross. Narrowest escape was when his machine caught fire and his guns jammed during a lone combat with three enemy fighters. Is well known as a writer of flying stories, usually with plots hinging upon some new scientific device or discovery.

**ERIC FRANK RUSSELL** Thirty-three years old, six-foot newcomer to the ranks of science-fiction authors. Has already made a name for himself as a writer who can combine fantasy with humour—without fatal effect. Has been soldier, telephone operator, quantity surveyor, draughtsman. Learnt Arabic when living in Egypt as a youngster, but now claims to remember only the best cuss-words. Lives with his wife and four-year-old daughter in Liverpool, and attributes his ability to make fantasies sound plausible to the practice afforded by his present occupation of commercial traveller.

**A. PRESTIGIACOMO** Is an eminent Italian engineering expert who began his career as a naval engineer. Inspired with the desire to interpret the "age of machines" in fiction, he took the "Robot"—already an established fact—one state further in imaginative prophecy and produced his greatest science-fiction story, "Menace of the Machine Men," which was written in English at the suggestion of a British admirer, Mr. Compton Mackenzie.

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