The Disintegration Machine and Other Stories

Sir Arthur Conan Doyle

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THE DISINTEGRATION MACHINE

PROFESSOR CHALLENGER was in the worst possible humour. As I stood at the door of his study, my hand upon the handle and my foot upon the mat, I heard a monologue which ran like this, the words booming and reverberating through the house:

'Yes, I say it is the second wrong call. The second in one morning. Do you imagine that a man of science is to be distracted from essential work by the constant interference of some idiot at the end of a wire? I will not have it. Send this instant for the manager. Oh! you are the manager. Well, why don't you manage? Yes, you certainly manage to distract me from work the importance of which your mind is incapable of understanding. I want the superintendent. He is away? So I should imagine. I will carry you to the law courts if this occurs again. Crowing cocks have been adjudicated upon. I myself have obtained a judgement. If crowing cocks, why not jangling bells? The case is clear. A written apology. Very good. I will consider it. Good morning.'

It was at this point that I ventured to make my entrance. It was certainly an unfortunate moment. I confronted him as he turned from the telephone −− a lion in its wrath. His huge black beard was bristling, his great chest was heaving with indignation, and his arrogant grey eyes swept me up and down as the backwash of his anger fell upon me.

'Infernal, idle, overpaid rascals!' he boomed. 'I could hear them laughing while I was making my just complaint. There is a conspiracy to annoy me. And now, young Malone, you arrive to complete a disastrous morning. Are you here, may I ask, on your own account, or has your rag commissioned you to obtain an interview? As a friend you are privileged −− as a journalist you are outside the pale.'

I was hunting in my pocket for McArdle's letter when suddenly some new grievance came to his memory. His great hairy hands fumbled about among the papers upon his desk and finally extracted a press cutting.

'You have been good enough to allude to me in one of your recent lucubrations,' he said, shaking the paper at me. 'It was in the course of your somewhat fatuous remarks concerning the recent Saurian remains discovered in the Solenhofen Slates. You began a paragraph with the words: "Professor G. E. Challenger, who is among our greatest living scientists−−"'

'Well, sir?' I asked.

'Why these invidious qualifications and limitations? Perhaps you can mention who these other predominant scientific men may be to whom you impute equality, or possibly superiority to myself?'

'It was badly worded. I should certainly have said: "Our greatest living scientist,"' I admitted. It was after all my own honest belief. My words turned winter into summer.

'My dear young friend, do not imagine that I am exacting, but surrounded as I am by pugnacious and unreasonable colleagues, one is forced to take one's own part. Self−assertion is foreign to my nature, but I have to hold my ground against opposition. Come now! Sit here! What is the reason of your visit?'

I had to tread warily, for I knew how easy it was to set the lion roaring once again. I opened McArdle's letter. 'May I read you this, sir? It is from McArdle, my editor.'

'I remember the man −− not an unfavourable specimen of his class.'

'He has, at least, a very high admiration for you. He has turned to you again and again when he needed the highest qualities in some investigation. That is the case now.'

'What does he desire?' Challenger plumed himself like some unwieldy bird under the influence of flattery. He sat down with his elbows upon the desk, his gorilla hands clasped together, his beard bristling forward, and his big grey eyes, half−covered by his drooping lids, fixed benignly upon me. He was huge in all that he did, and his benevolence was even more overpowering than his truculence.

'I'll read you his note to me. He says:

"Please call upon our esteemed friend, Professor Challenger, and ask for his co−operation in the following circumstances. There is a Latvian gentleman named Theodore Nemor living at White Friars Mansions, Hampstead, who claims to have invented a machine of a most extraordinary character which is capable of disintegrating any object placed within its sphere of influence. Matter dissolves and returns to its molecular or atomic condition. By reversing the process it can be reassembled. The claim seems to be an extravagant one, and yet there is solid evidence that there is some basis for it and that the man has stumbled upon some remarkable discovery.

"I need not enlarge upon the revolutionary character of such an invention, nor of its extreme importance as a potential weapon of war. A force which could disintegrate a battleship, or turn a battalion, if it were only for a time, into a collection of atoms, would dominate the world. For social and for political reasons not an instant is to be lost in getting to the bottom of the affair. The man courts publicity as he is anxious to sell his invention, so that there is no difficulty in approaching him. The enclosed card will open his doors. What I desire is that you and Professor Challenger shall call upon him, inspect his invention, and write for the Gazette a considered report upon the value of the discovery. I expect to hear from you to−night.−− R. McARDLE."

'There are my instructions, Professor,' I added, as I refolded the letter. 'I sincerely hope that you will come with me, for how can I, with my limited capacities, act alone in such a matter?'

'True, Malone! True!' purred the great man. 'Though you are by no means destitute of natural intelligence, I agree with you that you would be somewhat overweighted in such a matter as you lay before me. These unutterable people upon the telephone have already ruined my morning's work, so that a little more can hardly matter. I am engaged in answering that Italian buffoon, Mazotti, whose views upon the larval development of the tropical termites have excited my derision and contempt, but I can leave the complete exposure of the impostor until evening. Meanwhile, I am at your service.'

And thus it came about that on that October morning I found myself in the deep level tube with the Professor speeding to the North of London in what proved to be one of the most singular experiences of my remarkable

life.

I had, before leaving Enmore Gardens, ascertained by the much−abused telephone that our man was at home, and had warned him of our coming. He lived in a comfortable flat in Hampstead, and he kept us waiting for quite half an hour in his ante−room whilst he carried on an animated conversation with a group of visitors, whose voices, as they finally bade farewell in the hall, showed that they were Russians. I caught a glimpse of them through the half−opened door, and had a passing impression of prosperous and intelligent men, with astrakhan collars to their coats, glistening top−hats, and every appearance of that bourgeois well−being which the successful Communist so readily assumes. The hall door closed behind them, and the next instant Theodore Nemor entered our apartment. I can see him now as he stood with the sunlight full upon him, rubbing his long, thin hands together and surveying us with his broad smile and his cunning yellow eyes.

He was a short, thick man, with some suggestion of deformity in his body, though it was difficult to say where that suggestion lay. One might say that he was a hunchback without the hump. His large, soft face was like an underdone dumpling, of the same colour and moist consistency, while the pimples and blotches which adorned it stood out the more aggressively against the pallid background. His eyes were those of a cat, and catlike was the thin, long, bristling moustache above his loose, wet, slobbering mouth. It was all low and repulsive until one came to the sandy eyebrows. From these upwards there was a splendid cranial arch such as I have seldom seen. Even Challenger's hat might have fitted that magnificent head. One might read Theodore Nemor as a vile, crawling conspirator below, but above he might take rank with the great thinkers and philosophers of the world.

'Well, gentlemen,' said he, in a velvety voice with only the least trace of a foreign accent, 'you have come, as I understand from our short chat over the wires, in order to learn more of the Nemor Disintegrator. Is it so?'

'Exactly.'

'May I ask whether you represent the British Government?'

'Not at all. I am a correspondent of the Gazette, and this is Professor Challenger.'

'An honoured name −− a European name.' His yellow fangs gleamed in obsequious amiability. 'I was about to say that the British Government has lost its chance. What else it has lost it may find out later. Possibly its Empire as well. I was prepared to sell to the first Government which gave me its price, and if it has now fallen into hands of which you may disapprove, you have only yourselves to blame.'

'Then you have sold your secret?'

'At my own price.'

'You think the purchaser will have a monopoly?'

'Undoubtedly he will.'

'But others know the secret as well as you.'

'No, sir.' He touched his great forehead.

'This is the safe in which the secret is securely locked −− a better safe than any of steel, and secured by something better than a Yale key. Some may know one side of the matter: others may know another. No one in the world knows the whole matter save only I.'

'And these gentlemen to whom you have sold it.'

'No, sir; I am not so foolish as to hand over the knowledge until the price is paid. After that it is I whom they buy, and they move this safe' he again tapped his brow 'with all its contents to whatever point they desire. My part of the bargain will then be done −− faithfully, ruthlessly done. After that, history will be made.' He rubbed his hands together and the fixed smile upon his face twisted itself into something like a snarl.

'You will excuse me, sir,' boomed Challenger, who had sat in silence up to now, but whose expressive face registered most complete disapproval of Theodore Nemor, 'we should wish before we discuss the matter to convince ourselves that there is something to discuss. We have not forgotten a recent case where an Italian, who proposed to explode mines from a distance, proved upon investigation to be an arrant impostor. History may well repeat itself. You will understand, sir, that I have a reputation to sustain as a man of science −− a reputation which you have been good enough to describe as European, though I have every reason to believe that it is not less conspicuous in America. Caution is a scientific attribute, and you must show us your proofs before we can seriously consider your claims.'

Nemor cast a particularly malignant glance from the yellow eyes at my companion, but the smile of affected geniality broadened his face.

'You live up to your reputation, Professor. I had always heard that you were the last man in the world who could be deceived. I am prepared to give you an actual demonstration which cannot fail to convince you, but before we proceed to that I must say a few words upon the general principle.

'You will realize that the experimental plant which I have erected here in my laboratory is a mere model, though within its limits it acts most admirably. There would be no possible difficulty, for example, in disintegrating you and reassembling you, but it is not for such a purpose as that that a great Government is prepared to pay a price which runs into millions. My model is a mere scientific toy. It is only when the same force is invoked upon a large scale that enormous practical effects could be achieved.'

'May we see this model?'

'You will not only see it, Professor Challenger, but you will have the most conclusive demonstration possible upon your own person, if you have the courage to submit to it.'

'If!' the lion began to roar. 'Your "if," sir, is in the highest degree offensive.'

'Well, well. I had no intention to dispute your courage. I will only say that I will give you an opportunity to demonstrate It. But I would first say a few words upon the underlying laws which govern the matter.

'When certain crystals, salt, for example, or sugar, are placed in water they dissolve and disappear. You would not know that they have ever been there. Then by evaporation or otherwise you lessen the amount of water, and lo! there are your crystals again, visible once more and the same as before. Can you conceive a process by which you, an organic being, are in the same way dissolved into the cosmos, and then by a subtle reversal of the conditions reassembled once more?'

'The analogy is a false one,' cried Challenger. 'Even if I make so monstrous an admission as that our molecules could be dispersed by some disrupting power, why should they reassemble in exactly the same order as before?'

'The objection is an obvious one, and I can only answer that they do so reassemble down to the last atom of the structure. There is an invisible framework and every brick flies into its true place. You may smile,

Professor, but your incredulity and your smile may soon be replaced by quite another emotion.'

Challenger shrugged his shoulders. 'I am quite ready to submit it to the test.'

'There is another case which I would impress upon you, gentlemen, and which may help you to grasp the idea. You have heard both in Oriental magic and in Western occultism of the phenomenon of the apport when some object is suddenly brought from a distance and appears in a new place. How can such a thing be done save by the loosening of the molecules, their conveyance upon an etheric wave, and their reassembling, each exactly in its own place, drawn together by some irresistible law? That seems a fair analogy to that which is done by my machine.'

'You cannot explain one incredible thing by quoting another incredible thing,' said Challenger. 'I do not believe in your apports, Mr. Nemor, and I do not believe in your machine. My time is valuable, and if we are to have any sort of demonstration I would beg you to proceed with it without further ceremony. '

'Then you will be pleased to follow me,' said the inventor. He led us down the stair of the flat and across a small garden which lay behind. There was a considerable outhouse, which he unlocked and we entered.

Inside was a large whitewashed room with innumerable copper wires hanging in festoons from the ceiling, and a huge magnet balanced upon a pedestal. In front of this was what looked like a prism of glass, three feet in length and about a foot in diameter. To the right of it was a chair which rested upon a platform of zinc, and which had a burnished copper cap suspended above it. Both the cap and the chair had heavy wires attached to them, and at the side was a sort of ratchet with numbered slots and a handle covered with indiarubber which lay at present in the slot marked zero.

'Nemor's Disintegrator,' said this strange man, waving his hand towards the machine

'This is the model which is destined to be famous, as altering the balance of power among the nations. Who holds this rules the world. Now, Professor Challenger, you have, if I may say so, treated me with some lack of courtesy and consideration in this matter. Will you dare to sit upon that chair and to allow me to demonstrate upon your own body the capabilities of the new force?'

Challenger had the courage of a lion, and anything in the nature of a defiance roused him in an instant to a frenzy He rushed at the machine, but I seized his arm and held him back.

'You shall not go,' I said. 'Your life is too valuable. It is monstrous. What possible guarantee of safety have you? The nearest approach to that apparatus which I have ever seen was the electrocution chair at Sing Sing.'

'My guarantee of safety,' said Challenger, 'is that you are a witness and that this person would certainly be held for manslaughter at the least should anything befall me.'

'That would be a poor consolation to the world of science, when you would leave work unfinished which none but you can do. Let me, at least, go first, and then, when the experience proves to be harmless, you can follow.'

Personal danger would never have moved Challenger, but the idea that his scientific work might remain unfinished hit him hard. He hesitated, and before he could make up his mind I had dashed forward and jumped into the chair. I saw the inventor put his hand to the handle. I was aware of a click. Then for a moment there was a sensation of confusion and a mist before my eyes. When they cleared, the inventor with his odious smile was standing before me, and Challenger, with his apple−red cheeks drained of blood and colour, was staring over his shoulder.

'Well, get on with it!' said I.

'It is all over. You responded admirably,' Nemor replied. 'Step out, and Professor Challenger will now, no doubt, be ready to take his turn.'

I have never seen my old friend so utterly upset. His iron nerve had for a moment completely failed him. He grasped my arm with a shaking hand.

'My God, Malone, it is true,' said he. 'You vanished. There is not a doubt of it. There was a mist for an instant and then vacancy.'

'How long was I away?'

'Two or three minutes. I was, I confess, horrified. I could not imagine that you would return. Then he clicked this lever, if it is a lever, into a new slot and there you were upon the chair, looking a little bewildered but otherwise the same as ever. I thanked God at the sight of you!' He mopped his moist brow with his big red handkerchief.

'Now, sir,' said the inventor. 'Or perhaps your nerve has failed you?'

Challenger visibly braced himself. Then, pushing my protesting hand to one side, he seated himself upon the chair. The handle clicked into number three. He was gone.

I should have been horrified but for the perfect coolness of the operator. 'It is an interesting process, is it not?' he remarked. 'When one considers the tremendous individuality of the Professor it is strange to think that he is at present a molecular cloud suspended in some portion of this building. He is now, of course, entirely at my mercy. If I choose to leave him in suspension there is nothing on earth to prevent me.'

'I would very soon find means to prevent you.'

The smile once again became a snarl. 'You cannot imagine that such a thought ever entered my mind. Good heavens! Think of the permanent dissolution of the great Professor Challenger vanished into cosmic space and left no trace! Terrible! Terrible! At the same time he has not been as courteous as he might. Don't you think some small lesson −− ?'

'No, I do not.'

'Well, we will call it a curious demonstration. Something that would make an interesting paragraph in your paper. For example, I have discovered that the hair of the body being on an entirely different vibration to the living organic tissues can be included or excluded at will. It would interest me to see the bear without his bristles. Behold him!'

There was the click of the lever. An instant later Challenger was seated upon the chair once more. But what a Challenger! What a shorn lion! Furious as I was at the trick that had been played upon him I could hardly keep from roaring with laughter.

His huge head was as bald as a baby's and his chin was as smooth as a girl's. Bereft of his glorious mane the lower part of his face was heavily jowled and ham−shaped, while his whole appearance was that of an old fighting gladiator, battered and bulging, with the jaws of a bulldog over a massive chin.

It may have been some look upon our faces −− I have no doubt that the evil grin of my companion had widened at the sight −− but, however that may be, Challenger's hand flew up to his head and he became conscious of his condition. The next instant he had sprung out of his chair, seized the inventor by the throat, and had hurled him to the ground. Knowing Challenger's immense strength I was convinced that the man would be killed.

'For God's sake be careful. If you kill him we can never get matters right again!' I cried.

That argument prevailed. Even in his maddest moments Challenger was always open to reason. He sprang up from the floor, dragging the trembling inventor with him. 'I give you five minutes,' he panted in his fury. 'If in five minutes I am not as I was, I will choke the life out of your wretched little body.'

Challenger in a fury was not a safe person to argue with. The bravest man might shrink from him, and there were no signs that Mr. Nemor was a particularly brave man. On the contrary, those blotches and warts upon his face had suddenly become much more conspicuous as the face behind them changed from the colour of putty, which was normal, to that of a fish's belly. His limbs were shaking and he could hardly articulate.

'Really, Professor!' he babbled, with his hand to his throat, 'this violence is quite unnecessary. Surely a harmless joke may pass among friends. It was my wish to demonstrate the powers of the machine. I had imagined that you wanted a full demonstration. No offence, I assure you. Professor, none in the world!'

For answer Challenger climbed back into the chair.

'You will keep your eye upon him, Malone. Do not permit any liberties.'

'I'll see to it, sir.'

'Now then, set that matter right or take the consequences.'

The terrified inventor approached his machine. The reuniting power was turned on to the full, and in an instant, there was the old lion with his tangled mane once more. He stroked his beard affectionately with his hands and passed them over his cranium to be sure that the restoration was complete. Then he descended solemnly from his perch.

'You have taken a liberty, sir, which might have had very serious consequences to yourself. However, I am content to accept your explanation that you only did it for purposes of demonstration. Now, may I ask you a few direct questions upon this remarkable power which you claim to have discovered?'

'I am ready to answer anything save what the source of the power is. That is my secret.'

'And do you seriously inform us that no one in the world knows this except yourself?'

'No one has the least inkling.'

'No assistants?'

'No, sir. I work alone.'

'Dear me! That is most interesting. You have satisfied me as to the reality of the power, but I do not yet perceive its practical bearings.'

'I have explained, sir, that this is a model. But it would be quite easy to erect a plant upon a large scale. You understand that this acts vertically. Certain currents above you, and certain others below you, set up vibrations which either disintegrate or reunite. But the process could be lateral. If it were so conducted it would have the same effect, and cover a space in proportion to the strength of the current.'

'Give an example.'

'We will suppose that one pole was in one small vessel and one in another; a battleship between them would simply vanish into molecules. So also with a column of troops.'

'And you have sold this secret as a monopoly to a single European Power?'

'Yes, sir, I have. When the money is paid over they shall have such power as no nation ever had yet. You don't even now see the full possibilities if placed in capable hands hands which did not fear to wield the weapon which they held. They are immeasurable.' A gloating smile passed over the man's evil face. 'Conceive a quarter of London in which such machines have been erected. Imagine the effect of such a current upon the scale which could easily be adopted. Why,' he burst into laughter, 'I could imagine the whole Thames valley being swept clean, and not one man, woman, or child left of all these teeming millions!'

The words filled me with horror −− and even more the air of exultation with which they were pronounced. They seemed, however, to produce quite a different effect upon my companion. To my surprise he broke into a genial smile and held out his hand to the inventor.

'Well, Mr. Nemor, we have to congratulate you,' said he. 'There is no doubt that you have come upon a remarkable property of nature which you have succeeded in harnessing for the use of man. That this use should be destructive is no doubt very deplorable, but Science knows no distinctions of the sort, but follows knowledge wherever it may lead. Apart from the principle involved you have, I suppose, no objection to my examining the construction of the machine?'

'None in the least. The machine is merely the body. It is the soul of it, the animating principle, which you can never hope to capture.'

'Exactly. But the mere mechanism seems to be a model of ingenuity.' For some time he walked round it and fingered its several parts. Then he hoisted his unwieldy bulk into the insulated chair.

'Would you like another excursion into the cosmos?' asked the inventor.

'Later, perhaps −− later! But meanwhile there is, as no doubt you know, some leakage of electricity. I can distinctly feel a weak current passing through me.'

'Impossible. It is quite insulated.'

'But I assure you that I feel it.' He levered himself down from his perch.

The inventor hastened to take his place.

'I can feel nothing.'

'Is there not a tingling down your spine?'

'No, sir, I do not observe it.'

There was a sharp click and the man had disappeared. I looked with amazement at Challenger. 'Good heavens! Did you touch the machine, Professor?'

He smiled at me benignly with an air of mild surprise.

'Dear me! I may have inadvertently touched the handle,' said he. 'One is very liable to have awkward incidents with a rough model of this kind. This lever should certainly be guarded.'

'It is in number three. That is the slot which causes disintegration.'

'So I observed when you were operated upon.'

'But I was so excited when he brought you back that I did not see which was the proper slot for the return. Did you notice it?'

'I may have noticed it, young Malone, but I do not burden my mind with small details. There are many slots and we do not know their purpose. We may make the matter worse if we experiment with the unknown. Perhaps it is better to leave matters as they are.'

'And you would−−'

'Exactly. It is better so. The interesting personality of Mr. Theodore Nemor has distributed itself throughout the cosmos, his machine is worthless, and a certain foreign Government has been deprived of knowledge by which much harm might have been wrought. Not a bad morning's work, young Malone. Your rag will no doubt have an interesting column upon the inexplicable disappearance of a Latvian inventor shortly after the visit of its own special correspondent. I have enjoyed the experience. These are the lighter moments which come to brighten the dull routine of study. But life has its duties as well as its pleasures, and I now return to the Italian Mazotti and his preposterous views upon the larval development of the tropical termites.'

Looking back, it seemed to me that a slight oleaginous mist was still hovering round the chair. 'But surely −−' I urged.

'The first duty of the law−abiding citizen is to prevent murder,' said Professor Challenger. 'I have done so. Enough, Malone, enough! The theme will not bear discussion. It has already disengaged my thoughts too long from matters of more importance.'

The Horror of the Heights

The idea that the extraordinary narrative which has been called the Joyce−Armstrong Fragment is an elaborate practical joke evolved by some unknown person, cursed by a perverted and sinister sense of humour, has now been abandoned by all who have examined the matter. The most macabre and imaginative of plotters would hesitate before linking his morbid fancies with the unquestioned and tragic facts which reinforce the statement. Though the assertions contained in it are amazing and even monstrous, it is none the less forcing itself upon the general intelligence that they are true, and that we must readjust our ideas to the new situation. This world of ours appears to be separated by a slight and precarious margin of safety from a most singular and unexpected danger. I will endeavour in this narrative, which reproduces the original document in its necessarily somewhat fragmentary form, to lay before the reader the whole of the facts up to date, prefacing my statement by saying that, if there be any who doubt the narrative of Joyce−Armstrong, there can be no question at all as to the facts concerning Lieutenant Myrtle, R.N., and Dr. Hay Connor, who undoubtedly met their end in the manner described.

The Joyce−Armstrong Fragment was found in the field which is called Lower Haycock, lying one mile to the westward of the village of Withyham, upon the Kent and Sussex border. It was on the fifteenth of September last that an agricultural labourer, James Flynn, in the employment of Mathew Dodd, farmer, of the Chauntry Farm, Withyham, perceived a briar pipe lying near the footpath which skirts the hedge in Lower Haycock. A few paces farther on he picked up a pair of broken binocular glasses. Finally, among some nettles in the ditch, he caught sight of a flat, canvas−backed book, which proved to be a note−book with detachable leaves, some of which had come loose and were fluttering along the base of the hedge. These he collected, but some, including the first, were never recovered, and leave a deplorable hiatus in this all−important statement. The notebook was taken by the labourer to his master, who in turn showed it to Dr. J. H. Atherton, of Hartfield. This gentleman at once recognized the need for an expert examination, and the manuscript was forwarded to the Aero Club in London, where it now lies.

The first two pages of the manuscript are missing. There is also one torn away at the end of the narrative, though none of these affect the general coherence of the story. It is conjectured that the missing opening is concerned with the record of Mr Joyce−Armstrong's qualifications as an aeronaut, which can be gathered from other sources and are admitted to be unsurpassed among the air pilots of England. For many years he has been looked upon as among the most daring and the most intellectual of flying men, a combination which has enabled him to both invent and test several new devices, including the common gyroscopic attachment which is known by his name. The main body of the manuscript is written neatly in ink, but the last few lines are in pencil and are so ragged as to be hardly legible exactly, in fact, as they might be expected to appear if they were scribbled off hurriedly from the seat of a moving aeroplane. There are, it may be added, several stains, both on the last page and on the outside cover which have been pronounced by the Home Office experts to be blood −− probably human and certainly mammalian. The fact that something closely resembling the organism of malaria was discovered in this blood, and that Joyce Armstrong is known to have suffered from intermittent fever, is a remarkable example of the new weapons which modern science has placed in the hands of our detectives.

And now a word as to the personality of the author of this epoch−making statement. Joyce−Armstrong, according to the few friends who really knew something of the man, was a poet and a dreamer, as well as a mechanic and an inventor. He was a man of considerable wealth, much of which he had spent in the pursuit of his aeronautical hobby. He had four private aeroplanes in his hangars near Devizes, and is said to have made no fewer than one hundred and seventy ascents in the course of last year. He was a retiring man with dark moods, in which he would avoid the society of his fellows. Captain Dangerfield, who knew him better than anyone, says that there were times when his eccentricity threatened to develop into something more serious. His habit of carrying a shot−gun with him in his aeroplane was one manifestation of it.

Another was the morbid effect which the fall of Lieutenant Myrtle had upon his mind. Myrtle, who was attempting the height record, fell from an altitude of something over thirty thousand feet. Horrible to narrate, his head was entirely obliterated, though his body and limbs preserved their configuration. At every gathering of airmen, Joyce−Armstrong, according to Dangerfield, would ask, with an enigmatic smile: "And where, pray, is Myrtle's head?"

On another occasion after dinner, at the mess of the Flying School on Salisbury Plain, he started a debate as to what will be the most permanent danger which airmen will have to encounter. Having listened to successive opinions as to air−pockets, faulty construction, and over−banking, he ended by shrugging his shoulders and refusing to put forward his own views, though he gave the impression that they differed from any advanced by his companions.

It is worth remarking that after his own complete disappearance it was found that his private affairs were arranged with a precision which may show that he had a strong premonition of disaster. With these essential explanations I will now give the narrative exactly as it stands, beginning at page three of the blood soaked

notebook: −−

"Nevertheless, when I dined at Rheims with Coselli and Gustav Raymond I found that neither of them was aware of any particular danger in the higher layers of the atmosphere. I did not actually say what was in my thoughts, but I got so near to it that if they had any corresponding idea they could not have failed to express it. But then they are two empty, vainglorious fellows with no thought beyond seeing their silly names in the newspaper. It is interesting to note that neither of them had ever been much beyond the twenty−thousand−foot level. Of course, men have been higher than this both in balloons and in the ascent of mountains. It must be well above that point that the aeroplane enters the danger zone −− always presuming that my premonitions are correct.

"Aeroplaning has been with us now for more than twenty years, and one might well ask: Why should this peril be only revealing itself in our day? The answer is obvious. In the old days of weak engines, when a hundred horse−power Gnome or Green was considered ample for every need, the flights were very restricted. Now that three hundred horse−power is the rule rather than the exception, visits to the upper layers have become easier and more common. Some of us can remember how, in our youth, Garros made a world−wide reputation by attaining nineteen thousand feet, and it was considered a remarkable achievement to fly over the Alps. Our standard now has been immeasurably raised, and there are twenty high flights for one in former years. Many of them −− have been undertaken with impunity. The thirty−thousand−foot level has been reached time after time with no discomfort beyond cold and asthma. What does this prove? A visitor might descend upon this planet a thousand times and never see a tiger. Yet tigers exist, and if he chanced to come down into a jungle he might be devoured. There are jungles of the upper air, and there are worse things than tigers which inhabit them. I believe in time they will map these jungles accurately out. Even at the present moment I could name two of them. One of them lies over the Pau−Biarritz district of France. Another is just over my head as I write here in my house in Wiltshire. I rather think there is a third in the Hamburg−Wiesbaden district.

"It was the disappearance of the airmen that first set me thinking. Of course, every one said that they had fallen into the sea, but that did not satisfy me at all. First, there was Verrier in France; his machine was found near Bayonne, but they never got his body.

"There was the case of Baxter also, who vanished, though his engine and some of the iron fixings were found in a wood in Leicestershire. In that case, Dr. Middleton, of Amesbury, who was watching the flight with a telescope, declares that just before the clouds obscured the view he saw the machine, which was at an enormous height, suddenly rise perpendicularly upwards in a succession of jerks in a manner that he would have thought to be impossible. That was the last seen of Baxter. There was a correspondence in the papers, but it never led to anything. There were several other similar cases, and then there was the death of Hay Connor. What a cackle there was about an unsolved mystery of the air, and what columns in the halfpenny papers, and yet how little was ever done to get to the bottom of the business! He came down in a tremendous vol−plane from an unknown height. He never got off his machine and died in his pilot's seat. Died of what? "Heart disease," said the doctors. Rubbish! Hay Connor's heart was as sound as mine is. What did Venables say? Venables was the only man who was at his side when he died. He said that he was shivering and looked lie a man who had been badly scared. "Died of fright," said Venables, but cold not imagine what he was frightened about. Only said one word to Venables, which sounded like "Mon−strolls." They could make nothing of that at the inquest. But I could make something of it. Monsters! That was the last word of poor Harry Hay Connor. And he did die of fright, just as Venables thought.

"And then there was Myrtle's head. Do you really believe −− does anybody really believe −− that a man's head could be driven clean into his body by the force of a fall? Well, perhaps it may be possible, but I, for one, have never believed that it was so with Myrtle. And the grease upon his clothes −− "all slimy with grease," said somebody at the inquest. Queer that nobody got thinking after that! I did −− but, then, I had

been thinking for a good long time. I've made three ascents −− how Dangerfield used to chafe me about my shot−gun −− but I've never been high enough. Now, with this new light Paul Veroner machine and its one hundred and seventy−five Robur, I should easily touch the thirty thousand to−morrow. I'll have a shot at the record. Maybe I shall have a shot at something else as well. Of course, it's dangerous. If a fellow wants to avoid danger he had best keep out of flying altogether and subside finally into flannel slippers and a dressing−gown. But I'll visit the air−jungle tomorrow −− and if there's anything there I shall know it. If I return, I'll find myself a bit of a celebrity. If I don't, this note−book may explain what I am trying to do, and how I lost my life in doing it. But no drivel about accidents or mysteries, if you please.

"I chose my Paul Veroner monoplane for the job. There's nothing like a monoplane when real work is to be done. Beaumont found that out in very early days. For one thing, it doesn't mind damp, and the weather looks as if we should be in the clouds all the time. It's a bonny little model and answers my hand like a tender−mouthed horse. The engine is a ten−cylinder rotary Robur working up to one hundred and seventy−five. It has all the modern improvements; enclosed fuselage, high−curved landing skids, brakes, gyroscopic steadiers, and three speeds, worked by an alteration of the angle of the planes upon the Venetian−blind principle. I took a shot−gun with me and a dozen cartridges filled with buck−shot. You should have seen the face of Perkins, my old mechanic, when I directed him to put them in. I was dressed like an Arctic explorer, with two jerseys under my overalls, thick socks inside my padded boots, a storm−cap with flaps, and my talc goggles. It was stifling outside the hangars, but I was going for the summit of the Himalayas, and had to dress for the part. Perkins knew there was something on and implored me to take him with me. Perhaps I should if I were using the biplane, but a monoplane is a one−man show −− if you want to get the last foot of lift out of it. Of course, I took an oxygen bag; the man who goes for the altitude record without one will either be frozen or smothered −− or both.

"I had a good look at the planes, the rudder−bar, and the elevating lever before I got in. Everything was in order so far as I could see. Then I switched on my engine and found that she was running sweetly. When they let her go she rose almost at once upon the lowest speed. I circled my home field once or twice just to warm her up, and then, with a wave to Perkins and the others, I flattened out my planes and put her on her highest. She skimmed like a swallow down wind for eight or ten miles until I turned her nose up a little and she began to climb in a great spiral for the cloud−bank above me. It's allimportant to rise slowly and adapt yourself to the pressure as you go.

"It was a close, warm day for an English September, and there was the hush and heaviness of impending rain. Now and then there came sudden puffs of wind from the south−west −− one of them so gusty and unexpected that it caught me napping and turned me half−round for an instant. I remember the time when gusts and whirls and air−pockets used to be things of danger before we learned to put an overmastering power into our engines. Just as I reached the cloud−banks, with the altimeter marking three thousand, down came the rain. My word, how it poured! It drummed upon my wings and lashed against my face, blurring my glasses so that I could hardly see. I got down on to a low speed, for it was painful to travel against it. As I got higher it became hail, and I had to turn tail to it. One of my cylinders was out of action −− a dirty plug, I should imagine, but still I was rising steadily with plenty of power. After a bit the trouble passed, whatever it was, and I heard the full deep−throated purr −− the ten singing as one. That's where the beauty of our modern silencers comes in. We can at last control our engines by ear. How they squeal and squeak and sob when they are in trouble! All those cries for help were wasted in the old days, when every sound was swallowed up by the monstrous racket of the machine. If only the early aviators could come back to see the beauty and perfection of the mechanism which have been bought at the cost of their lives!

"About nine−thirty I was nearing the clouds. Down below me, all blurred and shadowed with rain, lay the vast expanse of Salisbury Plain. Half−a−dozen flying machines were doing hackwork at the thousand−foot level, looking like little black swallows against the green background. I dare say they were wondering what I was doing up in cloud−land. Suddenly a grey curtain drew across beneath me and the wet folds of vapour

were swirling round my face. It was clammily cold and miserable. But I was above the hail−storm, and that was something gained. The cloud was as dark and thick as a London fog. In my anxiety to get clear, I cocked her nose up until the automatic alarm−bell rang, and I actually began to slide backwards. My sopped and dripping wings had made me heavier than I thought, but presently I was in lighter cloud, and soon had cleared the layer. There was a second −− opal coloured and fleecy −− at a great height above my head, a white unbroken ceiling above, and a dark unbroken floor below, with the monoplane labouring upwards upon a vast spiral between them. It is deadly lonely in these cloud−spaces. Once a great flight of some small water−birds went past me, flying very fast to the westwards. The quick whirr of their wing and their musical cry were cheery to my ear. I fancy that they were teal, but I am a wretched zoologist. Now that we humans have become birds we must really learn to know our brethren by sight.

"The wind down beneath me whirled and swayed the broad cloud− plain. Once a great eddy formed in it, a whirlpool of vapour, and through it, as down a funnel, I caught sight of the distant world. A large white biplane was passing at a vast depth beneath me. I fancy it was the morning mail service betwixt Bristol and London. Then the drift swirled inwards again and the great solitude was unbroken.

"Just after ten I touched the lower edge of the upper cloud−stratum. It consisted of fine diaphanous vapour drifting swiftly from the westward. The wind had been steadily rising all this time and it was now blowing a sharp breeze −− twenty−eight an hour by my gauge. Already it was very cold, though my altimeter only marked nine thousand. The engines were working beautifully, and we went droning steadily upwards. The cloud−bank was thicker than I had expected, but at last it thinned out into a golden mist before me, and then in an instant I had shot out from it, and there was an unclouded sky and a brilliant sun above my head −− all blue and gold above, all shining silver below, one vast glimmering plain as far as my eyes could reach. It was a quarter past ten o'clock, and the barograph needle pointed to twelve thousand eight hundred. Up I went and up, my ears concentrated upon the deep purring of my motor, my eyes busy always with the watch, the revolution indicator, the petrol lever, and the oil pump. No wonder aviators are said to be a fearless race. With so many things to think of there is no time to trouble about oneself. About this time I noted how unreliable the compass when above a certain height from earth. At fifteen thousand feet mine was pointing east and a point south. The sun and the wind gave me my true bearings.

"I had hoped to reach an eternal stillness in these high altitudes, but with every thousand feet of ascent the gale grew stronger. My machine groaned and trembled in every joint and rivet as she faced it, and swept away like a sheet of paper when I banked her on the turn, skimming down wind at a greater pace, perhaps, than ever mortal man has moved. Yet I had always to turn again and tack up in the wind's eye, for it was not merely a height record that I was after. By all my calculations it was above little Wiltshire that my air−jungle lay, and all my labour might be lost if I struck the outer layers at some farther point.

"When I reached the nineteen−thousand foot level, which was about midday, the wind was so severe that I looked with some anxiety to the stays of my wings, expecting momentarily to see them snap or slacken. I even cast loose the parachute behind me, and fastened its hook into the ring of my leathern belt, so as to be ready for the worst. Now was the time when a bit of scamped work by the mechanic is paid for by the life of the aeronaut. But she held together bravely. Every cord and strut was humping and vibrating like so many harp strings, but it was glorious to see how, for all toms. At the same great height I found that even without my oxygen inhaler I could breathe without undue distress. It was bitterly cold, however, and my thermometer was at zero, Fahrenheit. At one−thirty I was nearly seven miles above the surface of the earth, and still ascending steadily. I found, however, that the rarefied air was giving markedly less support to my planes, and that my angle of ascent had to be considerably lowered in consequence. It was already clear that even with my light weight and strong engine−power there was a point in front of me where I should be held. To make matters worse, one of my sparking−plugs was in trouble again and there was intermittent misfiring in the engine. My heart was heavy with the fear of failure.

"It was about that time that I had a most extraordinary experience. Something whizzed past me in a trail of smoke and exploded with a loud, hissing sound, sending forth a cloud of steam. For the instant I could not imagine what had happened. Then I remembered that the earth is for ever being bombarded by meteor stone, and would be hardly inhabitable were they not in nearly every case turned to vapour in the outer layers of the atmosphere. Here is a new danger for the high−altitude man, for two others passed me when I was nearing the forty thousand−foot mark. I cannot doubt that at the edge of the earth's envelope the risk would be a very real one.

"My barograph needle marked forty−one thousand three hundred when I became aware that I could go no farther. Physically, the strain was not a yet greater than I could bear, but my machine had reached its limit. The attenuated air gave no firm support to the wings, and the least tilt developed into side−slip, while she seemed sluggish on her controls. Possibly, had the engine been at its best, another thousand feet might have been within our capacity, but it was still misfiring, and two out of the ten cylinders appeared to be out of action. If I had not already reached the zone for which I was searching then I should never see it upon this journey. But was it not possible that I had attained it? Soaring in circles like a monstrous hawk upon the forty−thousand−foot level I let the monoplane guide herself, and with my Mannheim glass I made a careful observation of my surroundings. The heavens were perfectly clear; there was no indication of those dangers which I had imagined.

"I have said that I was soaring in circles. It struck me suddenly that I would do well to take a wider sweep and open up a new air−tract. If the hunter entered an earth−jungle he would drive through it if he wished to find his game. My reasoning had led me to believe that the air−jungle which I had imagined lay somewhere over Wiltshire. This should be to the south and west of me. I took my bearings from the sun, for the compass was hopeless and no trace of earth was to be seen −− nothing but the distant silver cloud−plain. However, I got my direction as best I might and kept her head straight to the mark. I reckoned that my petrol supply would not last for more than another hour or so, but I could afford to use it to the last drop, since a single magnificent vol−plane could at any time take me to the earth.

"Suddenly I was aware of something new. The air in front of me had lost its crystal clearness. It was full of long, ragged wisps of something which I can only compare to very fine cigarette−smoke. It hung about in wreaths and coils, turning and twisting slowly in the sunlight. As the monoplane shot through it, I was aware of a faint taste of oil upon my lips, and there was a greasy scum upon the woodwork of the machine. Some infinitely fine organic matter appeared to be suspended in the atmosphere. There was no life there. It was inchoate and diffuse, extending for many square acres and then fringing off into the void. No, it was not life. But might it not be the remains of life? Above all, might it not be the food of life, of monstrous life, even as the humble grease of the ocean is the food for the mighty whale? The thought was in my mind when my eyes looked upwards and I saw the most wonderful vision that ever man has seen. Can I hope to convey it to you even as I saw it myself last Thursday?

"Conceive a jelly−fish such as sails in our summer seas, bell−shaped and of enormous size far larger, I should judge, than the dome of St. Paul's. It was of a light pink colour veined with a delicate green, but the whole huge fabric so tenuous that it was but a fairy outline against the dark blue sky. It pulsated with a delicate and regular rhythm. From it there depended two long, drooping green tentacles, which swayed slowly backward and forwards. This gorgeous vision passed gently with noiseless dignity over my head, as light and fragile as a soap−bubble, and drifted upon its stately way.

"I had half−turned my monoplane, that I might look after this beautiful creature, when, in a moment, I found myself amidst a perfect fleet of them, of all sizes, but none so large as the first. Some were quite small, but the majority about a big as an average balloon, and with much the same curvature at the top. There was in them a delicacy of texture and colouring which reminded me of the finest Venetian glass. Pale shades of pink and green were the prevailing tints, but all had a lovely iridescence where the shimmered through their dainty

form. Some hundred of them drifted past me, a wonderful fairy squadron of strange, unknown argosies of the sky −− creatures whose forms and substance were attuned to these pure heights that one could not conceive anything so delicate within actual sight or sound of earth.

"But soon my attention was drawn to a new phenomenon −− the serpents of the outer air. These were long, thin, fantastic coils of vapour like material, which turned and twisted with great speed, flying round and round at such a pace that the eyes could hardly follow them. Some of these ghost−like creatures were twenty or thirty feet long, but it was difficult to tell their girth, for their outline was so hazy that it seemed to fade away into the air around them. These air−snakes were of a very light grey or smoke colour, with some darker lines within, which gave the impression of a definite organism. One of them whisked past my very face, and I was conscious of a cold, clammy contact, but their composition was so unsubstantial that I could not connect them with any thought of physical danger, any more than the beautiful bell−like creatures which had preceded them. There was no more solidity in their frames than in the floating spume from a broken wave.

"But a more terrible experience was in store for me. Floating downwards from a great height there came a purplish patch of vapour, small as I saw it first, but rapidly enlarging as it approached me, until it appeared to be hundreds of square feet in size. Though fashioned of some transparent, jelly−like substance, it was none the less of much more definite outline and solid consistence than anything which I had seen before. There were more traces, too, of a physical organization, especially two vast shadowy, circular plates upon either side, which may have been eyes, and a perfectly solid white projection between them which was as curved and cruel as the beak of a vulture.

"The whole aspect of this monster was formidable and threatening, and it kept changing its colour from a very light mauve to a dark, angry purple so thick that it cast a shadow as it drifted between my monoplane and the sun.

"On the upper curve of its huge body there were three great projections which I can only describe as enormous bubbles, and I was convinced as I looked at them that they were charged with some extremely light gas which served to buoy up the misshapen and semisolid mass in the rarefied air. The creature moved swiftly along, keeping pace easily with the monoplane, and for twenty miles or more it formed my horrible escort, hovering over me like a bird of prey which is waiting to pounce. Its method of progression −− done so swiftly that it was not easy to follow −− was to throw out a long, glutinous streamer in front of it, which in turn seemed to draw forward the rest of the writhing body. So elastic and gelatinous was it that never for two successive minutes was it the same shape, and yet each change made it more threatening and loathsome than the last.

"I knew that it meant mischief. Every purple flush of its hideous body told me so. The vague, goggling eyes which were turned always upon me were cold and merciless in their viscid hatred. I dipped the nose of my monoplane downwards to escape it. As I did so, as quick as a flash there shot out a long tentacle from this mass of floating blubber, and it fell as light and sinuous as a whip−lash across the front of my machine. There was a loud hiss as it lay for a moment across the hot engine, and it whisked itself into the air again, while the huge flat body drew itself together as if in sudden pain. I dipped to a vol−pique, but again a tentacle fell over the monoplane and was shorn off by the propeller as easily as it might have cut through a smoke wreath. A long, gliding, sticky, serpent−like coil came from behind and caught me round the waist, dragging me out of the fuselage. I tore at it, my fingers sinking into the smooth, glue−like surface, and for an instant I disengaged myself, but only to be caught round the boot by another coil, which gave me a jerk that tilted me almost on to my back.

"As I fell over I blazed off both barrels of my gun, though, indeed, it was like attacking an elephant with a pea−shooter to imagine that any human weapon could cripple that mighty bulk. And yet I aimed better than I knew, for, with a loud report, one of the great blisters upon the creature's back exploded with the puncture of

the buck−shot. It was, very clear that my conjecture was right, and that these vast clear bladders were distended with some lifting gas, for in an instant the huge cloud−like body turned sideways, writhing desperately to find its balance, while the white beak snapped and gaped in horrible fury. But already I had shot away on the steepest glide that I dared to attempt, my engine still full on, the flying propeller and the force of gravity shooting me downwards like an aerolite. Far behind me I saw a dull, purplish smudge growing swiftly smaller and merging into the blue sky behind it. I was safe out of the deadly jungle of the outer air.

"Once out of danger I throttled my engine, for nothing tears a machine to pieces quicker than running on full power from a height. It was a glorious spiral vol−plane from nearly eight miles of altitude −− first, to the level of the silver cloud−bank, then to that of the storm cloud beneath it, and finally, in beating rain, to the surface of the earth. I saw the Bristol Channel beneath me as I broke from the clouds, but, having still some petrol in my tank, I got twenty miles inland before I found myself stranded in a field half a mile from the village of Ashcombe. There I got three tins of petrol from a passing motor−car, and at ten minutes past six that evening I alighted gently in my own home meadow at Devizes, after such a journey as no mortal upon earth has ever yet taken and lived to tell the tale. I have seen the beauty and I have seen the horror of the heights −− and greater beauty or greater horror than that is not within the ken of man.

"And now it is my plan to go once again before I give my results to the world. My reason for this is that I must surely have something to show by way of proof before I lay suck a tale before my fellow−men. It is true that others will soon follow and will confirm what I have said, and yet I should wish to carry conviction from the first. Those lovely iridescent bubbles of the air should not be hard to capture. They drift slowly upon their way, and the swift monoplane could intercept their leisurely course. It is likely enough that they would dissolve in the heavier layers of the atmosphere, and that some small heap of amorphous jelly might be all that I should bring to earth with me. And yet something there would surely be by which I could substantiate my story. Yes, I will go, even if I run a risk by doing so. These purple horrors would not seem to be numerous. It is probable that I shall not see one. If I do I shall dive at once. At the worst there is always the shot−gun and my knowledge of..."

Here a page of the manuscript is unfortunately missing. On the net page is written, in large, straggling writing: −−

"Forty−three thousand feet. I shall never see earth again. They are beneath me, three of them. God help me; it is a dreadful death to die!"

Such in its entirety is the Joyce−Armstrong Statement. Of the man nothing has since been seen. Pieces of his shattered monoplane have been picked up in the preserves of Mr. Budd−Lushington, upon the borders of Kent and Sussex, within a few miles of the spot where the note−book was discovered. If the unfortunate aviator's theory is correct that this air−jungle, as he called it, existed only over the south−west of England, then it would seem that he had fled from it at the full speed of his monoplane, but had been overtaken and devoured by these horrible creatures at some spot in the outer atmosphere above the place where the grim relics were found. The picture of that monoplane skimming down the sky, with the nameless terrors flying as swiftly beneath it and cutting it off always from the earth while they gradually closed in upon their victim, is one upon which a man who valued his sanity would prefer not to dwell. There are many, as I am aware, who still jeer at the facts which I have here set down, but even they must admit that Joyce−Armstrong has disappeared, and I would commend to them his own words: "This note−book may explain what I am trying to do, and how I lost my life in doing it. But no drivel about accidents or mysteries, if you please."

WHEN THE WORLD SCREAMED

I HAD a vague recollection of having heard my friend Edward Malone, of the Gazette, speak of Professor Challenger, with whom he had been associated in some remarkable adventures. I am so busy, however, with my own profession, and my firm has been so overtaxed with orders, that I know little of what is going on in the world outside my own special interests. My general recollection was that Challenger has been depicted as a wild genius of a violent and intolerant disposition. I was greatly surprised to receive a business communication from him which was in the following terms:

'14 (Bis), Enmore Gardens,
Kensington.

'Sir,−−

'I have occasion to engage the services of an expert in Artesian borings. I will not conceal from you that my opinion of experts is not a high one, and that I have usually found that a man who, like myself, has a well−equipped brain can take a sounder and broader view than the man who professes a special knowledge (which, alas, is so often a mere profession), and is therefore limited in his outlook. None the less, I am disposed to give you a trial. Looking down the list of Artesian authorities, a certain oddity −− I had almost written absurdity −− in your name attracted my attention, and I found upon inquiry that my young friend, Mr. Edward Malone, was actually acquainted with you. I am therefore writing to say that I should be glad to have an interview with you, and that if you satisfy my requirements, and my standard is no mean one, I may be inclined to put a most important matter into your hands. I can say no more at present as the matter is of extreme secrecy, which can only be discussed by word of mouth. I beg, therefore, that you will at once cancel any engagement which you may happen to have, and that you will call upon me at the above address at 10.30 in the morning of next Friday. There is a scraper as well as a mat, and Mrs. Challenger is most particular.

'I remain, Sir, as I began,
'George Edward Challenger.'

I handed this letter to my chief clerk to answer, and he informed the Professor that Mr. Peerless Jones would be glad to keep the appointment as arranged. It was a perfectly civil business note, but it began with the phrase: 'Your letter (undated) has been received.' This drew a second epistle from the Professor:

'Sir,' he said and his writing looked like a barbed wire fence −− 'I observe that you animadvert upon the trifle that my letter was undated. Might I draw your attention to the fact that, as some return for a monstrous taxation, our Government is in the habit of affixing a small circular sign or stamp upon the outside on the envelope which notifies the date of posting? Should this sign be missing or illegible your remedy lies with the proper postal authorities. Meanwhile, I would ask you to confine your observations to matters which concern the business over which I consult you, and to cease to comment upon the form which my own letters may assume. '

It was clear to me that I was dealing with a lunatic, so I thought it well before I went any further in the matter to call upon my friend Malone, whom I had known since the old days when we both played Rugger for Richmond. I found him the same jolly Irishman as ever, and much amused at my first brush with Challenger.

'That's nothing, my boy,' said he. 'You'll feel as if you had been skinned alive when you have been with him five minutes. He beats the world for offensiveness.'

'But why should the world put up with it?'

'They don't. If you collected all the libel actions and all the rows and all the police−court assaults−−'

'Assaults!'

'Bless you, he would think nothing of throwing you downstairs if you have a disagreement. He is a primitive cave−man in a lounge suit. I can see him with a club in one hand and a jagged bit of flint in the other. Some people are born out of their proper century, but he is born out of his millennium. He belongs to the early neolithic or thereabouts.'

'And he a professor!'

'There is the wonder of it! It's the greatest brain in Europe, with a driving force behind it that can turn all his dreams into facts. They do all they can to hold him back for his colleagues hate him like poison, but a lot of trawlers might as well try to hold back the Berengaria. He simply ignores them and steams on his way.'

'Well,' said I, 'one thing is clear. I don't want to have anything to do with him. I'll cancel that appointment.'

'Not a bit of it. You will keep it to the minute−−and mind that it is to the minute or you will hear of it.'

'Why should I?'

'Well, I'll tell you. First of all, don't take too seriously what I have said about old Challenger. Everyone who gets close to him learns to love him. There is no real harm in the old bear. Why, I remember how he carried an Indian baby with the smallpox on his back for a hundred miles from the back country down to the Madeira river. He is big every way. He won't hurt if you get right with him.'

'I won't give him the chance.'

'You will be a fool if you don't. Have you ever heard of the Hengist Down Mystery−−the shaft−sinking on the South Coast?'

'Some secret coal−mining exploration, I understand.'

Malone winked.

'Well, you can put it down as that if you like. You see, I am in the old man's confidence, and I can't say anything until he gives the word. But I may tell you this, for it has been in the Press. A man, Betterton, who made his money in rubber, left his whole estate to Challenger some years ago, with the provision that it should be used in the interests of science. It proved to be an enormous sum −− several millions. Challenger then bought a property at Hengist Down, in Sussex. It was worthless land on the north edge of the chalk country, and he got a large tract of it, which he wired off. There was a deep gully in the middle of it. Here he began to make an excavation. He announced' −− here Malone winked again −− 'that there was petroleum in England and that he meant to prove it. He built a little model village with a colony of well−paid workers who are all sworn to keep their mouths shut. The gully is wired off as well as the estate, and the place is guarded by bloodhounds. Several pressmen have nearly lost their lives, to say nothing of the seats of their trousers, from these creatures. It's a big operation, and Sir Thomas Morden's firm has it in hand, but they also are sworn to secrecy. Clearly the time has come when Artesian help is needed. Now, would you not be foolish to refuse such a job as that, with all the interest and experience and a big fat cheque at the end of it −− to say nothing of rubbing shoulders with the most wonderful man you have ever met or are ever likely to meet?'

Malone's arguments prevailed, and Friday morning found me on my way to Enmore Gardens, I took such particular care to be in time that I found myself at the door twenty minutes too soon. I was waiting in the street when it struck me that I recognized the Rolls− Royce with the silver arrow mascot at the door. It was certainly that of Jack Devonshire, the junior partner of the great Morden firm. I had always known him as the most urbane of men, so that it was rather a shock to me when he suddenly appeared, and standing outside the

door he raised both his hands, to heaven and said with great fervour: 'Damn him! Oh, damn him!'

'What is up, Jack? You seem peeved this morning.'

'Hullo, Peerless! Are you in on this job, too?'

'There seems a chance of it.'

'Well, you find it chastening to the temper.'

'Rather more so than yours can stand, apparently.'

'Well, I should say so. The butler's message to me was: "The Professor desired me to say, sir, that he was rather busy at present eating an egg, and that if you would call at some more convenient time he would very likely see you." That was the message delivered by a servant. I may add that I had called to collect forty−two thousand pounds that he owes us.'

I whistled.

'You can't get your money?'

'Oh, yes, he is all right about money. I'll do the old gorilla the justice to say that he is open− handed with money. But he pays when he likes and how he likes, and he cares for nobody. However, you go and try your luck and see how you like it.' With that he flung himself into his motor and was off.

I waited with occasional glances at my watch until the zero hour should arrive. I am, if I may say so, a fairly hefty individual, and a runner−up for the Belsize Boxing Club middle−weights, but I have never faced an interview with such trepidation as this. It was not physical, for I was confident I could hold my own if this inspired lunatic should attack me, but it was a mixture of feelings in which fear of some public scandal and dread of losing a lucrative contract were mingled. However, things are always easier when imagination ceases and action begins. I snapped up my watch and made for the door.

It was opened by an old wooden−faced butler, a man who bore an expression, or an absence of expression, which gave the impression that he was so inured to shocks that nothing on earth would surprise him.

'By appointment, sir?' he asked.

'Certainly.'

He glanced at a list in his hand.

'Your name, sir?... Quite so, Mr. Peerless Jones.... Ten−thirty. Everything is in order. We have to be careful, Mr. Jones, for we are much annoyed by journalists. The Professor, as you may be aware, does not approve of the Press. This way, sir. Professor Challenger is now receiving.'

The next instant I found myself in the presence. I believe that my friend, Ted Malone, has described the man in his 'Lost World' yarn better than I can hope to do, so I'll leave it at that. All I was aware of was a huge trunk of a man behind a mahogany desk, with a great spade−shaped black beard and two large grey eyes half covered with insolent drooping eyelids. His big head sloped back, his beard bristled forward, and his whole appearance conveyed one single impression of arrogant intolerance. 'Well, what the devil do you want?' was written all over him. I laid my card on the table.

'Ah yes,' he said, picking it up and handling it as if he disliked the smell of it. 'Of course. You are the expert so−called. Mr. Jones −− Mr. Peerless Jones. You may thank your godfather, Mr. Jones, for it was this ludicrous prefix which first drew my attention to you.'

'I am here, Professor Challenger, for a business interview and not to discuss my own name,' said I, with all the dignity I could master.

'Dear me, you seem to be a very touchy person, Mr. Jones. Your nerves are in a highly irritable condition. We must walk warily in dealing with you, Mr. Jones. Pray sit down and compose yourself. I have been reading your little brochure upon the reclaiming of the Sinai Peninsula. Did you write it yourself?'

'Naturally, sir. My name is on it.'

'Quite so! Quite so! But it does not always follow, does it? However, I am prepared to accept your assertion. The book is not without merit of a sort. Beneath the dullness of the diction one gets glimpses of an occasional idea. There are germs of thought here and there. Are you a married man?'

'No, sir. I am not. '

'Then there is some chance of your keeping a secret. '

'If I promised to do so, I would certainly keep my promise.

'So you say. My young friend, Malone' −− he spoke as if Ted were ten years of age −− 'has a good opinion of you. He says that I may trust you. This trust is a very great one, for I am engaged just now in one of the greatest experiments −− I may even say the greatest experiment −− in the history of the world. I ask for your participation.'

'I shall be honoured.'

'It is indeed an honour. I will admit that I should have shared my labours with no one were it not that the gigantic nature of the undertaking calls for the highest technical skill. Now, Mr. Jones, having obtained your promise of inviolable secrecy, I come down to the essential point. It is this−−that the world upon which we live is itself a living organism, endowed, as I believe, with a circulation, a respiration, and a nervous system of its own.'

Clearly the man was a lunatic.

'Your brain, I observe,' he continued, 'fails to register. But it will gradually absorb the idea. You will recall how a moor or heath resembles the hairy side of a giant animal. A certain analogy runs through all nature. You will then consider the secular rise and fall of land, which indicates the slow respiration of the creature. Finally, you will note the fidgetings and scratchings which appear to our Lilliputian perceptions as earthquakes and convulsions.'

'What about volcanoes?' I asked.

'Tut, tut! They correspond to the heat spots upon our own bodies.'

My brain whirled as I tried to find some answer to these monstrous contentions.

'The temperature!' I cried. 'Is it not a fact that it rises rapidly as one descends, and that the centre of the earth is liquid heat?'

He waved my assertion aside.

'You are probably aware, sir, since Council schools are now compulsory, that the earth is flattened at the poles. This means that the pole is nearer to the centre than any other point and would therefore be most affected by this heat of which you spoke. It is notorious, of course, that the conditions of the poles are tropical, is it not?'

'The whole idea is utterly new to me.'

'Of course it is. It is the privilege of the original thinker to put forward ideas which are new and usually unwelcome to the common clay. Now, sir, what is this?' He held up a small object which he had picked from the table.

'I should say it is a sea−urchin.'

'Exactly!' he cried, with an air of exaggerated surprise, as when an infant has done something clever. 'It is a sea−urchin −− a common echinus. Nature repeats itself in many forms regardless of the size. This echinus is a model, a prototype, of the world. You perceive that it is roughly circular, but flattened at the poles. Let us then regard the world as a huge echinus. What are your objections?'

My chief objection was that the thing was too absurd for argument, but I did not dare to say so. I fished around for some less sweeping assertion.

'A living creature needs food,' I said. 'Where could the world sustain its huge bulk?'

'An excellent point−−excellent!' said the Professor, with a huge air of patronage. 'You have a quick eye for the obvious, though you are slow in realizing the more subtle implications. How does the world get nourishment? Again we turn to our little friend the echinus. The water which surrounds it flows through the tubes of this small creature and provides its nutrition.'

'Then you think that the water−−'

'No, sir. The ether. The earth browses upon a circular path in the fields of space, and as it moves the ether is continually pouring through it and providing its vitality. Quite a flock of other little world−echini are doing the same thing, Venus, Mars, and the rest, each with its own field for grazing.'

The man was clearly mad, but there was no arguing with him. He accepted my silence as agreement and smiled at me in most beneficent fashion.

'We are coming on, I perceive,' said he. 'Light is beginning to break in. A little dazzling at first, no doubt, but we will soon get used to it. Pray give me your attention while I found one or two more observations upon this little creature in my hand.

'We will suppose that on this outer hard rind there were certain infinitely small insects which crawled upon the surface. Would the echinus ever be aware of their existence?'

'I should say not.'

'You can well imagine then, that the earth has not the least idea of the way in which it is utilized by the human race. It is quite unaware of this fungus growth of vegetation and evolution of tiny animalcules which has collected upon it during its travels round the sun as barnacles gather upon the ancient vessel. That is the present state of affairs, and that is what I propose to alter.'

I stared in amazement. 'You propose to alter it?'

'I propose to let the earth know that there is at least one person, George Edward Challenger, who calls for attention −− who, indeed, insists upon attention. It is certainly the first intimation it has ever had of the sort.'

'And how, sir, will you do this?'

'Ah, there we get down to business. You have touched the spot. I will again call your attention to this interesting little creature which I hold in my hand. It is all nerves and sensibility beneath that protective crust. Is it not evident that if a parasitic animalcule desired to call its attention it would sink a hole in its shell and so stimulate its sensory apparatus?'

'Certainly.'

'Or, again, we will take the case of the homely flea or a mosquito which explores the surface of the human body. We may be unaware of its presence. But presently, when it sinks its proboscis through the skin, which is our crust, we are disagreeably reminded that we are not altogether alone. My plans now will no doubt begin to dawn upon you. Light breaks in the darkness.'

'Good heavens! You propose to sink a shaft through the earth's crust?'

He closed his eyes with ineffable complacency.

'You see before you,' he said, 'the first who will ever pierce that horny hide. I may even put it in the present tense and say who has pierced it.'

'You have done it!'

'With the very efficient aid of Morden and think I may say that I have done it. Several years of constant work which has been carried on night and day, and conducted by every known species of drill, borer, crusher, and explosive, has at last brought us to our goal.'

'You don't mean to say you are through the crust!'

'If your expressions denote bewilderment they may pass. If they denote incredulity−−'

'No, sir, nothing of the kind.'

'You will accept my statement without question. We are through the crust. It was exactly fourteen thousand four hundred and forty−two yards thick, or roughly eight miles. In the course of our sinking it may interest you to know that we have exposed a fortune in the matter of coal−beds which would probably in the long run defray the cost of the enterprise. Our chief difficulty has been the springs of water in the lower chalk and Hastings sands, but these we have overcome. The last stage has now been reached −− and the last stage is none other than Mr. Peerless Jones. You, sir, represent the mosquito. Your Artesian borer takes the place of the stinging proboscis. The brain has done its work. Exit the thinker. Enter the mechanical one, the peerless one, with his rod of metal. Do I make myself clear?'

'You talk of eight miles!' I cried. 'Are you aware, sir, that five thousand feet is considered nearly the limit for Artesian borings? I am acquainted with one in upper Silesia which is six thousand two hundred feet deep, but it is looked upon as a wonder.'

'You misunderstand me, Mr. Peerless. Either my explanation or your brain is at fault, and I will not insist upon which. I am well aware of the limits of Artesian borings, and it is not likely that I would have spent millions of pounds upon my colossal tunnel if a six−inch boring would have met my needs. All that I ask you is to have a drill ready which shall be as sharp as possible, not more than a hundred feet in length, and operated by an electric motor. An ordinary percussion drill driven home by a weight will meet every requirement.

'Why by an electric motor?'

'I am here, Mr. Jones, to give orders, not reasons. Before we finish it may happen −− it may, I say, happen −− that your very life may depend upon this drill being started from a distance by electricity. It can, I presume, be done?'

'Certainly it can be done.'

'Then prepare to do it. The matter is not yet ready for your actual presence, but your preparations may now be made. I have nothing more to say.'

'But it is essential,' I expostulated, 'that you should let me know what soil the drill is to penetrate. Sand, or clay, or chalk would each need different treatment.'

'Let us say jelly,' said Challenger. 'Yes, we will for the present suppose that you have to sink your drill into jelly. And now, Mr. Jones, I have matters of some importance to engage my mind, so I will wish you good morning. You can draw up a formal contract with mention of your charges for my Head of Works.'

I bowed and turned, but before I reached the door my curiosity overcame me. He was already writing furiously with a quill pen screeching over the paper, and he looked up angrily at my interruption.

'Well, sir, what now? I had hoped you were gone.

'I only wished to ask you, sir, what the object of so extraordinary an experiment can be?'

'Away, sir, away!' he cried, angrily. 'Raise your mind above the base mercantile and utilitarian needs of commerce. Shake off your paltry standards of business. Science seeks knowledge. Let the knowledge lead us where it will, we still must seek it. To know once for all what we are, why we are, where we are, is that not in itself the greatest of all human aspirations? Away, sir, away!'

His great black head was bowed over his papers once more and blended with his beard. The quill pen screeched more shrilly than ever. So I left him, this extraordinary man, with my head in a whirl at the thought of the strange business in which I now found myself to be his partner.

When I got back to my office I found Ted Malone waiting with a broad grin upon his face to know the result of my interview.

'Well!' he cried. 'None the worse? No case of assault and battery? You must have handled him very tactfully. What do you think of the old boy?'

'The most aggravating, insolent, intolerant, self−opinionated man I have ever met, but −−'

'Exactly!' cried Malone. 'We all come to that "but." Of course, he is all you say and a lot more, but one feels that so big a man is not to be measured in our scale, and that we can endure from him what we would not stand from any other living mortal. Is that not so?'

'Well, I don't know him well enough yet to say, but I will admit that if he is not a mere bullying megalomaniac, and if what he says is true, then he certainly is in a class by himself. But is it true?'

'Of course it is true. Challenger always delivers the goods. Now, where are you exactly in the matter? Has he told you about Hengist Down?'

'Yes, in a sketchy sort of way.'

'Well, you may take it from me that the whole thing is colossal colossal in conception and colossal in execution. He hates pressmen, but I am in his confidence, for he knows that I will publish no more than he authorizes. Therefore I have his plans, or some of his plans. He is such a deep old bird that one never is sure if one has really touched bottom. Anyhow, I know enough to assure you that Hengist Down is a practical proposition and nearly completed. My advice to you now is simply to await events, and meanwhile to get your gear all ready. You'll hear soon enough either from him or from me.'

As it happened, it was from Malone himself that I heard. He came round quite early to my office some weeks later, as the bearer of a message.

'I've come from Challenger' said he.

'You are like the pilot fish to the shark.'

'I'm proud to be anything to him. He really is a wonder. He has done it all right. It's your turn now, and then he is ready to ring up the curtain.'

'Well, I can't believe it until I see it, but I have everything ready and loaded on a lorry. I could start it off at any moment.'

'Then do so at once. I've given you a tremendous character for energy and punctuality, so mind you don't let me down. In the meantime, come down with me by rail and I will give you an idea of what has to be done.'

It was a lovely spring morning −− May 22nd, to be exact −− when we made that fateful journey which brought me on to a stage which is destined to be historical. On the way Malone handed me a note from Challenger which I was to accept as my instructions.

'Sir,' (it ran) −−

'Upon arriving at Hengist Down you will put yourself at the disposal of Mr. Barforth, the Chief Engineer, who is in possession of my plans. My young friend, Malone, the bearer of this, is also in touch with me and may protect me from any personal contact. We have now experienced certain phenomena in the shaft at and below the fourteen thousand−foot level which fully bear out my views as to the nature of a planetary body, but some more sensational proof is needed before I can hope to make an impression upon the torpid intelligence of the modern scientific world. That proof you are destined to afford, and they to witness. As you descend in the lifts you will observe, presuming that you have the rare quality of observation, that you pass in succession the secondary chalk beds, the coal measures, some Devonian and Cambrian indications, and

finally the granite, through which the greater part of our tunnel is conducted. The bottom is now covered with tarpaulin, which I order you not to tamper with, as any clumsy handling of the sensitive inner cuticle of the earth might bring about premature results. At my instruction, two strong beams have been laid across the shaft twenty feet above the bottom, with a space between them. This space will act as a clip to hold up your Artesian tube. Fifty feet of drill will suffice, twenty of which will project below the beams, so that the point of the drill comes nearly down to the tarpaulin. As you value your life do not let it go further. Thirty feet will then project upwards in the shaft, and when you have released it we may assume that not less than forty feet of drill will bury itself in the earth's substance. As this substance is very soft I find that you will probably need no driving power, and that simply a release of the tube will suffice by its own weight to drive it into the layer which we have uncovered. These instructions would seem to be sufficient for any ordinary intelligence, but I have little doubt that you will need more, which can be referred to me through our young friend, Malone.

'GEORGE EDWARD CHALLENGER.'

It can be imagined that when we arrived at the station of Storrington, near the northern foot of the South Downs, I was in a state of considerable nervous tension. A weather−worn Vauxhall thirty landaulette was awaiting us, and bumped us for six or seven miles over by−paths and lanes which, in spite of their natural seclusion, were deeply rutted and showed every sign of heavy traffic. A broken lorry lying in the grass at one point showed that others had found it rough going as well as we. Once a huge piece of machinery which seemed to be the valves and piston of a hydraulic pump projected itself, all rusted, from a clump of furze.

'That's Challenger's doing,' said Malone, grinning.

'Said it was one−tenth of an inch out of estimate, so he simply chucked it by the wayside.'

'With a lawsuit to follow, no doubt.'

'A lawsuit! My dear chap, we should have a court of our own. We have enough to keep a judge busy for a year. Government too. The old devil cares for no one. Rex v. George Challenger and George Challenger v. Rex. A nice devil's dance the two will have from one court to another. Well, here we are. All right, Jenkins, you can let us in!'

A huge man with a notable cauliflower ear was peering into the car, a scowl of suspicion upon his face. He relaxed and saluted as he recognized my companion.

'All right, Mr. Malone. I thought it was the American Associated Press.'

'Oh, they are on the track, are they?'

'They to−day, and The Times yesterday. Oh, they are buzzing round proper. Look at that!' He indicated a distant dot upon the sky−line. 'See that glint ! That's the telescope of the Chicago Daily News. Yes, they are fair after us now. I've seen 'em in rows, same as the crows, along the Beacon yonder.'

'Poor old Press gang!' said Malone, as we entered a gate in a formidable barbed wire fence. 'I am one of them myself, and I know how it feels.

At this moment we heard a plaintive bleat behind us of 'Malone! Ted Malone!' It came from a fat little man who had just arrived upon a motor−bike and was at present struggling in the Herculean grasp of the gatekeeper.

'Here, let me go!' he sputtered. 'Keep your hands off! Malone, call off this gorilla of yours.'

'Let him go, Jenkins! He's a friend of mine!' cried Malone. 'Well, old bean, what is it? What are you after in these parts? Fleet Street is your stamping ground −− not the wilds of Sussex.'

'You know what I am after perfectly well,' said our visitor. 'I've got the assignment to write a story about Hengist Down and I can't go home without the copy.'

'Sorry, Roy, but you can't get anything here. You'll have to stay on that side of the wire. If you want more you must go and see Professor Challenger and get his leave.'

'I've been,' said the journalist, ruefully. 'I went this morning.'

'Well, what did he say?'

'He said he would put me through the window.'

Malone laughed.

'And what did you say?'

'I said, "What's wrong with the door?" and I skipped through it just to show there was nothing wrong with it. It was no time for argument. I just went. What with that bearded Assyrian bull in London, and this Thug down here, who has ruined my clean celluloid, you seem to be keeping queer company, Ted Malone.'

'I can't help you, Roy; I would if I could. They say in Fleet Street that you have never been beaten, but you are up against it this time. Get back to the office, and if you just wait a few days I'll give you the news as soon as the old man allows.'

'No chance of getting in?'

'Not an earthly.'

'Money no object?'

'You should know better than to say that.'

'They tell me it's a short cut to New Zealand.'

'It will be a short cut to the hospital if you butt in here, Roy. Good−bye, now. We have some work to do of our own.

'That's Roy Perkins, the war correspondent,' said Malone as we walked across the compound. 'We've broken his record, for he is supposed to be undefeatable. It's his fat, little innocent face that carries him through everything. We were on the same staff once. Now there' −− he pointed to a cluster of pleasant red−roofed bungalows −− 'are the quarters of the men. They are a splendid lot of picked workers who are paid far above ordinary rates. They have to be bachelors and teetotallers, and under oath of secrecy. I don't think there has been any leakage up to now. That field is their football ground and the detached house is their library and recreation room. The old man is some organizer, I can assure you. This is Mr. Barforth, the head engineer−in−charge.'

A long, thin, melancholy man with deep lines of anxiety upon his face had appeared before us. 'I expect you are the Artesian engineer,' said he, in a gloomy voice. 'I was told to expect you. I am glad you've come, for I don't mind telling you that the responsibility of this thing is getting on my nerves. We work away, and I never know if it's a gush of chalk water, or a seam of coal, or a squirt of petroleum, or maybe a touch of hell fire that is coming next. We've been spared the last up to now, but you may make the connection for all I know.'

'Is it so hot down there?'

'Well, it's hot. There's no denying it. And yet maybe it is not hotter than the barometric pressure and the confined space might account for. Of course, the ventilation is awful. We pump the air down, but two−hour shifts are the most the men can do −− and they are willing lads too. The Professor was down yesterday, and he was very pleased with it all. You had best join us at lunch, and then you will see it for yourself.'

After a hurried and frugal meal we were introduced with loving assiduity upon the part of the manager to the contents of his engine−house, and to the miscellaneous scrapheap of disused implements with which the grass was littered. On one side was a huge dismantled Arrol hydraulic shovel, with which the first excavations had been rapidly made. Beside it was a great engine which worked a continuous steel rope on which the skips were fastened which drew up the debris by successive stages from the bottom of the shaft. In the power−house were several Escher Wyss turbines of great horse−power running at one hundred and forty revolutions a minute and governing hydraulic accumulators which evolved a pressure of fourteen hundred pounds per square inch, passing in three−inch pipes down the shaft and operating four rock drills with hollow cutters of the Brandt type. Abutting upon the engine−house was the electric house supplying power for a very large lighting instalment, and next to that again was an extra turbine of two hundred horse−power, which drove a ten−foot fan forcing air down a twelve−inch pipe to the bottom of the workings. All these wonders were shown with many technical explanations by their proud operator, who was well on his way to boring me stiff, as I may in turn have done my reader. There came a welcome interruption, however, when I heard the roar of wheels and rejoiced to see my Leyland three−tonner come rolling and heaving over the grass, heaped up with tools and sections of tubing, and bearing my foreman, Peters, and a very grimy assistant in front. The two of them set to work at once to unload my stuff and to carry it in. Leaving them at their work, the manager, with Malone and myself, approached the shaft.

It was a wondrous place, on a very much larger scale than I had imagined. The spoil banks, which represented the thousands of tons removed, had been built up into a great horseshoe around it, which now made a considerable hill. In the concavity of this horseshoe, composed of chalk, clay, coal, and granite, there rose up a bristle of iron pillars and wheels from which the pumps and the lifts were operated. They connected with the brick power building which filled up the gap in the horseshoe. Beyond it lay the open mouth of the shaft, a huge yawning pit, some thirty or forty feet in diameter, lined and topped with brick and cement. As I craned my neck over the side and gazed down into the dreadful abyss, which I had been assured was eight miles deep, my brain reeled at the thought of what it represented. The sunlight struck the mouth of it diagonally, and I could only see some hundreds of yards of dirty white chalk, bricked here and there where the surface had seemed unstable. Even as I looked, however, I saw, far, far down in the darkness, a tiny speck of light, the smallest possible dot, but clear and steady against the inky background.

'What is that light?' I asked.

Malone bent over the parapet beside me.

'That's one of the cages coming up,' said he. 'Rather wonderful, is it not? That is a mile or more from us, and that little gleam is a powerful arc lamp. It travels quickly, and will be here in a few minutes.'

Sure enough the pin−point of light came larger and larger, until it flooded the tube with its silvery radiance, and I had to turn away my eyes from its blinding glare. A moment later the iron cage clashed up to the landing stage, and four men crawled out of it and passed on to the entrance.

'Nearly all in,' said Malone. 'It is no joke to do a two−hour shift at that depth. Well, some of your stuff is ready to hand here. I suppose the best thing we can do is to go down. Then you will be able to judge the situation for yourself.'

There was an annexe to the engine−house into which he led me. A number of baggy suits of the lightest tussore material were hanging from the wall. Following Malone's example I took off every stitch of my clothes, and put on one of these suits, together with a pair of rubber−soled slippers. Malone finished before I did and left the dressing−room. A moment later I heard a noise like ten dog−fights rolled into one, and rushing out I found my friend rolling on the ground with his arms round the workman who was helping to stack my artesian tubing. He was endeavouring to tear something from him to which the other was most desperately clinging. But Malone was too strong for him, tore the object out of his grasp, and danced upon it until it was shattered to pieces. Only then did I recognize that it was a photographic camera. My grimy−faced artisan rose ruefully from the floor.

'Confound you, Ted Malone!' said he. 'That was a new ten−guinea machine.'

'Can't help it, Roy. I saw you take the snap, and there was only one thing to do.'

'How the devil did you get mixed up with my outfit?' I asked, with righteous indignation.

The rascal winked and grinned. 'There are always and means,' said he. 'But don't blame your foreman. He thought it was just a rag. I swapped clothes with his assistant, and in I came.'

'And out you go,' said Malone. 'No use arguing, Roy. If Challenger were here he would set the dogs on you. I've been in a hole myself so I won't be hard, but I am watch−dog here, and I can bite as well as bark. Come on! Out you march!'

So our enterprising visitor was marched by two grinning workmen out of the compound. So now the public will at last understand the genesis of that wonderful four−column article headed 'Mad Dream of a Scientist' with the subtitle. 'A Bee−line to Australia,' which appeared in The Adviser some days later and brought Challenger to the verge of apoplexy, and the editor of The Adviser to the most disagreeable and dangerous interview of his lifetime. The article was a highly coloured and exaggerated account of the adventure of Roy Perkins, 'our experienced war correspondent' and it contained such purple passages as 'this hirsute bully of Enmore Gardens,' 'a compound guarded by barbed wire, plug−uglies, and bloodhounds,' and finally, 'I was dragged from the edge of the Anglo−Australian tunnel by two ruffians, the more savage being a jack−of−all trades whom I had previously known by sight as a hanger−on of the journalistic profession, while the other, a sinister figure in a strange tropical garb, was posing as an Artesian engineer, though his appearance was more reminiscent of Whitechapel.' Having ticked us off in this way, the rascal had an elaborate description of rails at the pit mouth, and of a zigzag excavation by which funicular trains were to burrow into the earth. The only practical inconvenience arising from the article was that it notably increased that line of loafers who sat upon the South Downs waiting for something to happen. The day came when it did happen and when they wished themselves elsewhere.

My foreman with his faked assistant had littered the place with all my apparatus, my bellbox, my crowsfoot, the V−drills, the rods, and the weight, but Malone insisted that we disregard all that and descend ourselves to the lowest level. To this end we entered the cage, which was of latticed steel, and in the company of the chief engineer we shot down into the bowels of the earth. There were a series of automatic lifts, each with its own

operating station hollowed out in the side of the excavation. They operated with great speed, and the experience was more like a vertical railway journey than the deliberate fall which we associate with the British lift.

Since the cage was latticed and brightly illuminated, we had a clear view of the strata which we passed. I was conscious of each of them as we flashed past. There were the sallow lower chalk, the coffee−coloured Hastings beds, the lighter Ashburnham beds, the dark carboniferous clays, and then, gleaming in the electric light, band after band of jet−black, sparkling coal alternating with the rings of clay. Here and there brickwork had been inserted, but as a rule the shaft was self−supported, and one could but marvel at the immense labour and mechanical skill which it represented. Beneath the coal−beds I was conscious of jumbled strata of a concrete−like appearance, and then we shot down into the primitive granite, where the quartz crystals gleamed and twinkled as if the dark walls were sown with the dust of diamonds. Down we went and ever down −− lower now than ever mortals had ever before penetrated. The archaic rocks varied wonderfully in colour, and I can never forget one broad belt of rose−coloured felspar, which shone with an unearthly beauty before our powerful lamps. Stage after stage, and lift after lift, the air getting ever closer and hotter until even the light tussore garments were intolerable and the sweat was pouring down into those rubber−soled slippers. At last, just as I was thinking that I could stand it no more, the last lift came to a stand and we stepped out upon a circular platform which had been cut in the rock. I noticed that Malone gave a curiously suspicious glance round at the walls as he did so. If I did not know him to be amongst the bravest of men, I should say that he was exceedingly nervous.

'Funny−looking stuff,' said the chief engineer, passing his hand over the nearest section of rock. He held it to the light and showed that it was glistening with a curious slimy scum. 'There have been shiverings and tremblings down here. I don't know what we are dealing with. The Professor seems pleased with it, but it's all new to me.'

'I am bound to say I've seen that wall fairly shake itself,' said Malone. 'Last time I was down here we fixed those two cross−beams for your drill, and when we cut into it for the supports it winced at every stroke. The old man's theory seemed absurd in solid old London town, but down here, eight miles under the surface, I am not so sure about it.'

'If you saw what was under that tarpaulin you would be even less sure,' said the engineer. 'All this lower rock cut like cheese, and when we were through it we came on a new formation like nothing on earth. "Cover it up! Don't touch it!" said the Professor. So we tarpaulined it according to his instructions, and there it lies.

'Could we not have a look?'

A frightened expression came over the engineer's lugubrious countenance.

'It's no joke disobeying the Professor,' said he. 'He is so damn cunning, too, that you never know what check he has set on you. However, we'll have a peep and chance it.'

He turned down our reflector lamp so that the light gleamed upon the black tarpaulin. Then he stooped and, seizing a rope which connected up with the corner of the covering, he disclosed half−a−dozen square yards of the surface beneath it.

It was a most extraordinary and terrifying sight. The floor consisted of some greyish material, glazed and shiny, which rose and fell in slow palpitation. The throbs were not direct, but gave the impression of a gentle ripple or rhythm, which ran across the surface. This surface itself was not entirely homogeneous, but beneath it, seen as through ground glass, there were dim whitish patches or vacuoles, which varied constantly in shape and size. We stood all three gazing spell−bound at this extraordinary sight.

'Does look rather like a skinned animal,' said Malone, in an awed whisper. 'The old man may not be so far out with his blessed echinus.'

'Good Lord!' I cried. 'And am I to plunge a harpoon into that beast!'

'That's your privilege, my son,' said Malone, 'and, sad to relate, unless I give it a miss in baulk, I shall have to be at your side when you do it.'

'Well, I won't,' said the head engineer, with decision.

'I was never clearer on anything than I am on that. If the old man insists, then I resign my portfolio. Good Lord, look at that!'

The grey surface gave a sudden heave upwards, welling towards us as a wave does when you look down from the bulwarks. Then it subsided and the dim beatings and throbbings continued as before. Barforth lowered the rope and replaced the tarpaulin.

'Seemed almost as if it knew we were here,' said he.

'Why should it swell up towards us like that? I expect the light had some sort of effect upon it.'

'What am I expected to do now?' I asked. Mr. Barforth pointed to two beams which lay across the pit just under the stopping place of the lift. There was an interval of about nine inches between them.

'That was the old man's idea,' said he. 'I think I could have fixed it better, but you might as well try to argue with a mad buffalo. It is easier and safer just to do whatever he says. His idea is that you should use your six−inch bore and fasten it in some way between these supports. '

'Well, I don't think there would be much difficulty about that,' I answered. 'I'll take the job over as from to−day.'

It was, as one might imagine, the strangest experience of my very varied life which has included well−sinking in every continent upon earth. As Professor Challenger was so insistent that the operation should be started from a distance, and as I began to see a good deal of sense in his contention, I had to plan some method of electric control, which was easy enough as the pit was wired from top to bottom. With infinite care my foreman, Peters, and I brought down our lengths of tubing and stacked them on the rocky ledge. Then we raised the stage of the lowest lift so as to give ourselves room. As we proposed to use the percussion system, for it would not do to trust entirely to gravity, we hung our hundred−pound weight over a pulley beneath the lift, and ran our tubes down beneath it with a V−shaped terminal. Finally, the rope which held the weight was secured to the side of the shaft in such a way that an electrical discharge would release it. It was delicate and difficult work done in a more than tropical heat, and with the ever−present feeling that a slip of a foot or the dropping of a tool upon the tarpaulin beneath us might bring about some inconceivable catastrophe. We were awed, too, by our surroundings. Again and again I have seen a strange quiver and shiver pass down the walls, and have even felt a dull throb against my hands as I touched them. Neither Peters nor I were very sorry when we signalled for the last time that we were ready for the surface, and were able to report to Mr. Barforth that Professor Challenger could make his experiment as soon as he chose.

And it was not long that we had to wait. Only three days after my date of completion my notice arrived.

It was an ordinary invitation card such as one uses for 'at homes,' and it ran thus:

PROFESSOR G. E. CHALLENGER,
F.R.S. MD., D.Sc., etc.

(late President Zoological Institute and holder of so many honorary degrees and appointments that they overtax the capacity of this card) requests the attendance of

MR. JONES (no lady)
at 11.30 a.m. of Tuesday, June 21st, to witness a remarkable triumph of mind over matter

at
HENGIST DOWN, SUSSEX.

Special train Victoria 10.5. Passengers pay their own fares. Lunch after the experiment or not −− according to circumstances. Station, Storrington.

R.S.V.P. (and at once with name in block letters), 14 (Bis), Enmore Gardens, S.W.

I found that Malone had just received a similar missive over which he was chuckling.

'It is mere swank sending it to us,' said he. 'We have to be there whatever happens, as the hangman said to the murderer. But I tell you this has set all London buzzing. The old man is where he likes to be, with a pin−point limelight right on his hairy old head.'

And so at last the great day came. Personally I thought it well to go down the night before so as to be sure that everything was in order. Our borer was fixed in position, the weight was adjusted, the electric contacts could be easily switched on, and I was satisfied that my own part in this strange experiment would be carried out without a hitch. The electric controls were operated at a point some five hundred yards from the mouth of the shaft, to minimize any personal danger. When on the fateful morning, an ideal English summer day, I came to the surface with my mind assured, I climbed half−way up the slope of the Down in order to have a general view of the proceedings.

All the world seemed to be coming to Hengist Down. As far as we could see the roads were dotted with people. Motor−cars came bumping and swaying down the lanes, and discharged their passengers at the gate of the compound. This was in most cases the end of their progress. A powerful band of janitors waited at the entrance, and no promises or bribes, but only the production of the coveted buff tickets, could get them any farther. They dispersed therefore and joined the vast crowd which was already assembling on the side of the hill and covering the ridge with a dense mass of spectators. The place was like Epsom Downs on the Derby Day. Inside the compound certain areas had been wired−off, and the various privileged people were conducted to the particular pen to which they had been allotted. There was one for peers, one for members of the House of Commons, and one for the heads of learned societies and the men of fame in the scientific world, including Le Pellier of the Sorbonne and Dr. Driesinger of the Berlin Academy. A special reserved enclosure with sandbags and a corrugated iron roof was set aside for three members of the Royal Family.

At a quarter past eleven a succession of chars−a−bancs brought up specially−invited guests from the station and I went down into the compound to assist at the reception. Professor Challenger stood by the select enclosure, resplendent in frock−coat, white waistcoat, and burnished top−hat, his expression a blend of overpowering and almost offensive benevolence, mixed with most portentous self−importance. 'Clearly a typical victim of the Jehovah complex,' as one of his critics described him. He assisted in conducting and

occasionally in propelling his guests into their proper places, and then, having gathered the elite of the company around him, he took his station upon the top of a convenient hillock and looked around him with the air of the chairman who expects some welcoming applause. As none was forthcoming, he plunged at once into his subject, his voice booming to the farthest extremities of the enclosure.

'Gentlemen,' he roared, 'upon this occasion I have no need to include the ladies. If I have not invited them to be present with us this morning it is not, I can assure you, for want of appreciation, for I may say' −− with elephantine humour and mock modesty −− 'that the relations between us upon both sides have always been excellent, and indeed intimate. The real reason is that some small element of danger is involved in our experiment, though it is not sufficient to justify the discomposure which I see upon many of your faces. It will interest the members of the Press to know that I have reserved very special seats for them upon the spoil banks which immediately overlook the scene of the operation. They have shown an interest which is sometimes indistinguishable from impertinence in my affairs, so that on this occasion at least they cannot complain that I have been remiss in studying their convenience. If nothing happens, which is always possible, I have at least done my best for them. If, on the other hand, something does happen, they will be in an excellent position to experience and record it, should they ultimately feel equal to the task.

'It is, as you will readily understand, impossible for a man of science to explain to what I may describe, without undue disrespect, as the common herd, the various reasons for his conclusions or his actions. I hear some unmannerly interruptions, and I will ask the gentleman with the horn spectacles to cease waving his umbrella. (A voice: "Your description of your guests, sir, is most offensive.") Possibly it is my phrase, "the common herd," which has ruffled the gentleman. Let us say, then, that my listeners are a most uncommon herd. We will not quibble over phrases. I was about to say, before I was interrupted by this unseemly remark, that the whole matter is very fully and lucidly discussed in my forthcoming volume upon the earth, which I may describe with all due modesty as one of the epoch−making books of the world's history. (General interruption and cries of "Get down to the facts!" "What are we here for?" "Is this a practical joke?") I was about to make the matter clear, and if I have any further interruption I shall be compelled to take means to preserve decency and order, the lack of which is so painfully obvious. The position is, then, that I have sunk a shaft through the crust of the earth and that I am about to try the effect of a vigorous stimulation of its sensory cortex, a delicate operation which will be carried out by my subordinates, Mr. Peerless Jones, a self−styled expert in Artesian borings, and Mr. Edward Malone, who represents myself upon this occasion. The exposed and sensitive substance will be pricked, and how it will react is a matter for conjecture. If you will now kindly take your seats these two gentlemen will descend into the pit and make the final adjustments. I will then press the electric button upon this table and the experiment will be complete.'

An audience after one of Challenger's harangues usually felt as if, like the earth, its protective epidermis had been pierced and its nerves laid bare. This assembly was no exception, and there was a dull murmur of criticism and resentment as they returned to their places. Challenger sat alone on the top of the mound, a small table beside him, his black mane and beard vibrating with excitement, a most portentous figure. Neither Malone nor I could admire the scene, however, for we hurried off upon our extraordinary errand. Twenty minutes later we were at the bottom of the shaft, and had pulled the tarpaulin from the exposed surface.

It was an amazing sight which lay before us. By some strange cosmic telepathy the old planet seemed to know that an unheard−of liberty was about to be attempted. The exposed surface was like a boiling pot. Great grey bubbles rose and burst with a crackling report. The air−spaces and vacuoles below the skin separated and coalesced in an agitated activity. The transverse ripples were stronger and faster in their rhythm than before. A dark purple fluid appeared to pulse in the tortuous anastomoses of channels which lay under the surface. The throb of life was in it all. A heavy smell made the air hardly fit for human lungs.

My gaze was fixed upon this strange spectacle when Malone at my elbow gave a sudden gasp of alarm. 'My God, Jones!' he cried. 'Look there!'

I gave one glance, and the next instant I released the electric connection and I sprang into the lift. 'Come on!' I cried. 'It may be a race for life!'

What we had seen was indeed alarming. The whole lower shaft, it would seem, had shared in the increased activity which we had observed below, and the walls were throbbing and pulsing in sympathy. This movement had reacted upon the holes in which the beams rested, and it was clear that a very little further retraction −− a matter of inches −− the beams would fall. If they did so then the sharp end of my rod would, of course, penetrate the earth quite independently of the electric release. Before that happened it was vital that Malone and I should be out of the shaft. To be eight miles down in the earth with the chance any instant of some extraordinary convulsion taking place was a terrible prospect. We fled wildly for the surface.

Shall either of us ever forget that nightmare journey? The lifts whizzed and buzzed and yet the minutes seemed to be hours. As we reached each stage we sprang out, jumped into the next lift, touched the release and flew onwards. Through the steel latticed roof we could see far away the little circle of light which marked the mouth of the shaft. Now it grew wider and wider, until it came full circle and our glad eyes rested upon the brickwork of the opening. Up we shot, and up −− and then at last in a glad moment of joy and thankfulness we sprang out of our prison and had our feet upon the green sward once more. But it was touch and go. We had not gone thirty paces from the shaft when far down in the depths my iron dart shot into the nerve ganglion of old Mother Earth and the great moment had arrived.

What was it happened? Neither Malone nor I was in a position to say, for both of us were swept off our feet as by a cyclone and swirled along the grass, revolving round and round like two curling stones upon an ice rink. At the same time our ears were assailed by the most horrible yell that ever yet was heard. Who is there of all the hundreds who have attempted it who has ever yet described adequately that terrible cry? It was a howl in which pain, anger, menace, and the outraged majesty of Nature all blended into one hideous shriek. For a full minute it lasted, a thousand sirens in one, paralysing all the great multitude with its fierce insistence, and floating away through the still summer air until it went echoing along the whole South Coast and even reached our French neighbours across the Channel. No sound in history has ever equalled the cry of the injured Earth.

Dazed and deafened, Malone and I were aware of the shock and of the sound, but it is from the narrative of others that we learned the other details of that extraordinary scene.

The first emergence from the bowels of the earth consisted of the lift cages. The other machinery being against the walls escaped the blast, but the solid floors of the cages took the full force of the upward current. When several separate pellets are placed in a blow−pipe they still shoot forth in their order and separately from each other. So the fourteen lift cages appeared one after the other in the air, each soaring after the other, and describing a glorious parabola which landed one of them in the sea near Worthing pier, and a second one in a field not far from Chichester. Spectators have averred that of all the strange sights that they had ever seen nothing could exceed that of the fourteen lift cages sailing serenely through the blue heavens.

Then came the geyser. It was an enormous spout of vile treacly substance of the consistence of tar, which shot up into the air to a height which has been computed at two thousand feet. An inquisitive aeroplane, which had been hovering over the scene, was picked off as by an Archie and made a forced landing, man and machine buried in filth. This horrible stuff, which had a most penetrating and nauseous odour, may have represented the life blood of the planet, or it may be, as Professor Driesinger and the Berlin School maintain, that it is a protective secretion, analogous to that of the skunk, which Nature has provided in order to defend Mother Earth from intrusive Challengers. If that were so the prime offender, seated on his throne upon the hillock, escaped untarnished, while the unfortunate Press were so soaked and saturated, being in the direct line of fire, that none of them was capable of entering decent society for many weeks. This gush of putridity was blown southwards by the breeze, and descended upon the unhappy crowd who had waited so long and so

patiently upon the crest of the Downs to see what would happen. There were no casualties. No home was left desolate, but many were made odoriferous, and still carry within their walls some souvenir of that great occasion.

And then came the closing of the pit. As Nature slowly closes a wound from below upwards, so does the Earth with extreme rapidity mend any rent which is made in its vital substance. There was a prolonged high−pitched crash as the sides of the shaft came together, the sound, reverberating from the depths and then rising higher and higher until with a deafening bang the brick circle at the orifice flattened out and clashed together, while a tremor like a small earthquake shook down the spoil banks and piled a pyramid fifty feet high of debris and broken iron over the spot where the hole had been. Professor Challenger's experiment was not only finished, it was buried from human sight for ever. If it were not for the obelisk which has now been erected by the Royal Society it is doubtful if our descendants would ever know the exact site of that remarkable occurrence.

And then came the grand finale. For a long period after these successive phenomena there was a hush and a tense stillness as folk reassembled their wits and tried to realize exactly what had occurred and how it had come about. And then suddenly the mighty achievement, the huge sweep of the conception, the genius and wonder of the execution, broke upon their minds. With one impulse they turned upon Challenger. From every part of the field there came the cries of admiration, and from his hillock he could look down upon the lake of upturned faces broken only by the rise and fall of the waving handkerchiefs. As I look back I see him best as I saw him then. He rose from his chair, his eyes half closed, a smile of conscious merit upon his face, his left hand upon his hip, his right buried in the breast of his frock−coat. Surely that picture will be fixed for ever, for I heard the cameras clicking round me like crickets in a field. The June sun shone golden upon him as he turned gravely bowing to each quarter of the compass. Challenger the super scientist, Challenger the arch−pioneer, Challenger the first man of all men whom Mother Earth had been compelled to recognize.

Only a word by way of epilogue. It is of course well known that the effect of the experiment was a world−wide one. It is true that nowhere did the injured planet emit such a howl as at the actual point of penetration, but she showed that she was indeed one entity by her conduct elsewhere. Through every vent and every volcano she voiced her indignation. Hecla bellowed until the Icelanders feared a cataclysm. Vesuvius blew its head off. Etna spewed up a quantity of lava, and a suit of half−a−million lira damages has been decided against Challenger in the Italian Courts for the destruction of vineyards. Even in Mexico and in the belt of Central America there were signs of intense Plutonic indignation, and the howls of Stromboli filled the whole Eastern Mediterranean. It has been the common ambition of mankind to set the whole world talking. To set the whole world screaming was the privilege of Challenger alone.