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FOREWORD.

There is no doubt that quite a few readers, after seeing some of the amateur science-fiction stories included in some American fan magazines, were pleasantly surprised by the high standard of the story in the first issue of this magazine. ("Mr. Craddock's Life-Line" by Temple Williams.)

So pleased were readers by the quality, that complaints were received that the issue did not contain enough material. This, we trust, has been remedied by the present issue, which contains nearly twice as much.

We should like to remind readers that the first three issues of this magazine are experimental ones, and it depends on the general reaction to these whether or not the magazine is continued. All readers, therefore, are invited to send detailed comments on the stories.

The most essential thing, however, is that we should be well supplied with material from which to select stories. The initial response was quite satisfactory, when manuscripts which had been horded for years were brought to light. But now, rejections, etc, have reduce our stock, and we appeal to all amateur authors to support this, their own magazine.

by

Eric C. Williams.

"Send Banners along here as you pass the Rubber sheds!" shouted John Harvey to one of his engineers about to depart via the office air-lock. "Tell him there's bad news from the Venu end."

"Right!" said the engineer, and swung the screws. Ten minutes later a small tractor car drew up outside the lead walled hut, and Vic Banners rushed out and into the air-lock. After a moment the inner door opened and he came across, breathing very hard, to the waiting Harvey.

"I wish you would'nt do that rushing act of yours," protested Harvey to his assistant. "Sulphur Dioxide is nasty stuff if you do happen to breath it. Why don't you just put on your suit like a good lad, and stop worrying me? Sit down."

Banners adjusted himself in a chair and waited patiently.

"In two days," said Harvey, "we stop driving the road north towards Venu, and turn at right angles to the west; that is if things are still as they are now."

"The hell we do!" ejaculated Banners. "And why so?"

"Hyde, on the Venu end, has struck a river."

"Well, can't we bridge it?"

"Not this one; it's a river of Energy."

"A what?"

"To be precise, it's a vein of iron ore carrying a current of about two million amps, from one volcano to another."

"Don't believe it," said Banners flatly. "Any electricity in a vein like that would leak out like a waterfall."

"Hardly," said Harvey smiling. "This particular deposit is embedded in several yards of volcanic ash and rock, top and bottom."

"Huh!" said Banners. "And how big is this glorified river of Energy?"

"Lord knows! Hyde's machines became induced at two miles distance."

"Lord alive!" murmured Banners.

"And he couldn't cross the ground above the thing because the ash had been reduced to a mass of quicksand. The heat from the resistance was terrific."

"Deuced queer," said Banners. "Old Venus has a lot of worries for us slaving engineers. You know, back on Earth they think they've done something smart when they tunnel the British Channel or railroad through a jungle. I wish we could give them a taste of a Sulphur Dioxide and Trioxide atmosphere, with visibility four yards. Rivers of Sulphuric Acid and downpours of Sulphurous Acid. Winds raging night and day, and a temperature of two hundred degrees Fahrenheit always. The only time I feel at ease on this blasted planet, is when I'm encased in a lead suit and inside a double-walled hut."

Harvey smiled at his assistant who a few moments ago had rushed unprotected through a Sulphuric ridden atmosphere, and who now declared himself scared of this bizarre planet.

"Well, let's get down to business," he said. "Bring your chair

round here, and I'll explain this plan."

Banners slid his chair round the table and bent over the squared sheet of paper before Harvey. In one corner were the usual compass directions and a little scale laid out. The plan was almost void of any details, except at one point where a red circle marked Venu, the town directly over the North Pole of Venus, and by the scale 250 miles to the south of this, another circle named Sulphrus, which represented, he knew, the other end of the road that was being constructed between Venu and Sulphurus. In between these two points, starting each from one of the circles, were two black lines which approached each other with many seemingly irrelevant turns until they were separated by only a small space. Across this gap at right-angles to the black lines, was a thick red line. Harvey pointed to this.

"This line shows the iron vein as far as it has been surveyed by Hyde. This cross here is one of the volcanoes into which the vein runs. The other is somewhere off to the east, probably miles away."

"How do you know there is another volcano?" interrupted Banners.

"Ketting, of Hyde's camp, reckons that in some way there is a transference of energy from one volcano to another, although he can't figure out how the circuit is completed. You see, a volcano is about the only thing that could possibly produce all that energy, and as they are two an erg on this continent, the chances are that there is another volcano at the end of the vein."

"A queer hook-up it must be," commented Banners. "And a flaming nuisance for all its marvels. This will mean roughly another hundred or so miles getting round."

Harvey shrugged....

"There is no getting over a thing like this. You can't blow it up like a hill. It's thick no doubt to carry such a load of amps. We will have to go round - if the Transport Board agrees to pay the extra costs. That's why I called you here. I want you to take somebody and follow the vein to the east, and find where that other volcano is, and if possible get round."

"That's easy. Can you spare Bob Hicker?"

"Yes, by all means. He is an old hand at finding his way through this damned atmosphere. Wait a minute, here are the exact positions of the vein as fixed by Hyde by radio - compasses are twisted to hell in the magnetic field of the vein. And remember, don't take any steel instruments or personal belongings into the area, they would be torn from you and generally hashed when you approached near. That's all, except, get a new suit out of the stores and USE it, don't try and hold your breath for a week, it won't work."

"O.K. chief. I'll start right away."

"Cheerio. Best of luck!"

Harvey, looking from the sulphur starred window, saw the dim shape of Vic Banners plunge into his machine and drag the door close. How long would it be, he thought, before that breath holding trick ended in a burst lung?

An enclosed tractor car bumped its way off the resilient road-way onto a pale grey terrain. Its passengers left the steering of this huge mass to an electric motor connected to a pre-set compass and a "sounding machine" throwing feelers of super-sonic waves into the grey dense wall of sulphur gasses around. Now and again there came a little snap from the machine and the compass would move over its card, then sooner or later there would be another click and the needle would shift back to its original position. Thus the black twenty-foot long machine

clattered its way over the powdery landscape of Venus, heading north-east towards the vein of iron to be surveyed.

The passengers sat now busy over a small short-wave transmitter and receiver, endeavoring to fix a new interference choke into the circuit.

"I'd like to bust the fellow who left this bad choke in, on the nose. How the hell did he think we were going to pick up signals with an engine going full blast and no choke?"

"Think yourself lucky he was considerate enough to leave a spare on board," said the other looking up with a grin. He snapped on the two sets.

"Now I'll try and connect Hyde's station."

The terrific roar of Venus static filled the room as the receiver warmed up. He turned it down, then called the customary attention into the transmitter. "Vic Banners calling station VEN 5TB, Vic Banners calling station VEN 5TB,.." over and over again, until suddenly the receiver crackled into fresh noises,

"Station VEN 5TB calling Vic Banners. Ready."

"Message for Hyde. Tell him Vic Banners and Bob Hicker are on their way to survey eastern end of iron vein, and that if he has anything new to report on the western side, we will be ready to receive at the end of every hour. Finish and farewell."

Vic Banners clicked off the two sets and sat down at the table screwed in the middle of the floor. Bob Hicker took a seat on the other side of the table and rested his elbows on the top.

"What exactly are the difficulties in putting the road over this vein?" he asked. "It seems to me that quicksand wouldn't be any difficulty, it's been done before."

"That's not the point at all," answered Vic. "The trouble lies in the fact that any steel or iron machine, such as the innards of this machine, or any electrical circuit like that in our engine, when passing over or near this blessed river affair, becomes, if it is steel or iron, either highly attracted and magnetised, or say in the case of a copper wire circuit, has a current induced in it, which isn't exactly desirable. So you see it would be practicably impossible to send a machine over a road built on that vein because once there its engine would jam up and the whole thing just stick."

"Yes, I guess that's about right.. It seems a pity that they couldn't have surveyed the route before starting out building the road. It would have saved all this trouble."

"Oh Bobby Bobby! where is your knowledge of Venus? Don't you know that the longest distance travelled through this place is only one hundred miles, and then only in a straight line. No instrument we know of can let you see your way about here, you just have to trust to your machines, so how are you to go surveying?...."

"Yes, teacher; you big sap-head, don't I know that already. I was only remarking."

"I ask you now," went on Vic regardless of this interruption. "what would have been the use of sending out an expedition. Everybody thought that they could beat any natural obstacles they might come up against: volcanoes, rivers, chasms, mountains; and what not, so why send out an expedition to blunder around in their machines like blind worms? Why not just start on the road and keep going no matter what comes? It so happens, however, that here is something we never reckoned on or ever dreamed of, and the devil of it is that we are nearly through with the money and behind schedule."

"And maybe the Trust will probably kick some of us engineers out

for playing about, huh?" concluded Bob.

"That's it, unless we find a quick way round."

There was a short silence, then Vic switched on the and waited for any report from Hyde. Soon a voice came through the mush.

"Hyde calling Banners. Will you send a position signal for one minute."

Vic unhooked the interference choke and ran the generator through the transmitter for the specified time. Ten cutting off again he listened in for his position.

"Banners, here is your position. Latitude 88.7, Longitude 9.5 east. That brings you, if the vein continues in a straight line from here, about one mile from the area of its noticeable magnetic effects. Ketting is on his way to the east with an assistant. His wavelength is 28.6. He will call you at 36-0 o'clock sharp. Nothing important from the western end. So long, good-luck. Finish and off."

"When we reach the edge of the magnetic field," said Vic Banners to his companion, "we will have to keep alongside until it drops off, then we go in and round - I hope."

And so their machine picked its ghostly way through invisible hills and around roaring geysers, until at last the guiding compass became a trifle undecided in its usual rigid bearing and tended to swing towards the north more. Then it was that an adjustment had to be made, and a watch kept up on the fluctuations of a sensitive galvanometer. A stylus needle moved over a graph and followed the difference in the induced current with slight variations in a straight black line. For an hour this went on without any appreciable change in current strength, when it slumped off rapidly and the machine was turned more to the north where the current picked up tremendously. At last 36-0 came, and Vic switched on for Ketting's call.

"Ketting calling Banners." mottoned a voice.

"Banners here." called Vic. "Ready to receive".

"Oh hello, Banners; guess my watch is a bit haywire. I've been calling for the last ten minutes with no results."

"Never know, it might be mine." said Vic. "I've been following this vein now for about two hours and no doubt there has been a slight effect on my watch."

"Yes, no doubt." came back. "Well, I've found the volcano; a tremendous fellow according to my sounding apparatus. I can quite believe he can produce millions of volts and amps. But the problem is still as bad as ever. It will be a hundred miles round this way; almost no difference at all from the west side. I've called Hyde and he says come in. However, I think I'll hang around and see just how this dynamo works. He's blowing around like an NT. arsenal going skyhigh; can you hear him yet? Sound is a bit deceptive in this muck of gases and the wind howls enough to deafen an octopus, so perhaps you won't hear him until you are right near."

"No I can't hear anything out of the run, but if you give me a generator signal every half-minute, I think I will be able to locate you soon enough."

"O.K! Cheerio till a few minutes."

The static took possession, then faintly came a high buzz. Quickly Bob Hicker lined up the "V" aerial and consulted a milliammeter plugged into the set.

"Right," he said. "Get going, brother. I'll keep my eye on this, you take charge of the compass."

The tractor crunched on through the rage of white gasses. In

its bright lit interior the two men crouched by their posts, their eyes alert to notice any change in the magnetic field they were helpless to enter, their ears straining for the first boom of the volcano they were approaching.

Suddenly the machine rose and fell with a lurch. It jumbled from side to side in an ecstasy of shivering, then went clanging forward again.

"That's our volcano!" said Vic to Bob.

"An unruly fellow," said Bob.

"So our friend Ketting remarked. Listen! Lord what a bang! We must be right on top of it."

"We should be right on top of Ketting now, the strength of his signal is going up like a rocket. Wait a minute! just stop here and sound the generator."

There followed a cross confirmation of positions and then a few moments of manoeuvring.

"Marvellous!" exclaimed Vic. "A direct hit."

"Don't forget what Harvey is always telling you," grinned Bob. "Put on your suit like a good lad, then we'll go out and investigate."

They struggled into the heavy metallic, asbestos cloth garments, and strapped the Sulphur Dioxide converters onto their shoulders.

These converters drew in the Sulphur Dioxide atmosphere and presented Oxygen to the wearer. The principle had only been discovered after an extensive research into the metallic catalysts, and the result was, at least so it had been previously supposed, impossible. It was so simple and the energy expended so slight, that for all intents and purposes it was an example of perpetual motion, or of perpetual change. These square boxes simply had to be strapped over the shoulders and the valve adjusted, and there was nothing to do for a week, month or a year.

Outside, crouched in the lee of the two giant black shapes, they met Ketting and his assistant. Hand shakes were exchanged, and communication flexes plugged in. The sound of deep breathing flowed round the little party.

"Well!," said Bob, "What's best to be done?"

Ketting motioned over his shoulder with a thumb.

"Have a look at the volcano first. Might discover some flaw in this cosmic hook-up."

The assistant laughed quickly, and his squeaky voice, or so it was in the phones, tinned in their ears.

"On such a scale as this, not even the biggest flaw would be of much use to us. Better to examine the vein itself for possibilities."

Ketting glared at his assistant through his thick glass face-plate.

"Keep quiet morbid; we start on the volcano!" He turned to Banners and said. "I'm sure you will agree that no chance should be overlooked, so I suggest we try and get near this volcano and trace the vein into its heart."

"That suits us," assented Vic. "What instruments will we need?"

Ketting thought for a moment then shook his head.

"Instruments are useless on this trip, all you will want is a climbing spike and a rope."

These were quickly found in their tractors, and taking these plus

a small screened short-wave set with a directional aerial attached, which, when tuned to the wavelength of the purring electric motors within the tractors, would unfailingly indicate their direction, they set out in a northerly direction over a sulphurous ground thick with a carpet of fresh fallen ashes.

Speedily, almost with every step, the ground became more distorted and cracked with the effects of countless earthquakes. Streams of boiling acid bubbled through channels of glistening lava. Huge boulders dotted the rising ground, and their cindery appearance was ample proof that at one time they had lived in the heart of this monstrous crater and had finally been hurled out as molten masses during some upheaval.

Several chasms had to be jumped in their progress, and once an acid stream to be waded. But after an hour of this labouring, Ketting announced that they were somewhere above the iron vein, and that from now on the search serious was to begin. What they were to search for he did not say. It was a search in hope, and the assistant frankly doubted its success.

With the communication flexes the limit of their separation they struggled through the blasts of scorching grey-white gasses, around this jagged mountain of kinetic energy.

Ketting in the lead was silent in thought, but his assistant argued this way and that about the advisability of climbing over ground which at any moment might blow up, or split open, or fall in, in fact, he miserably declared, 'he'd sooner take of his helmet now and get it over quicker.'

"Take it off! Take it off!" yelled Vic at last in desperation. "But let's have a chance to think. Bob! Kick him in the pants if he talks again."

Bob moved up behind the miserable party and the talk ceased.

At last, however, even Vic was forced to ask Ketting what the use of this was. Ketting stopped and stood for a minute dejected.

"Nothing has turned up. I thought maybe we might find a means a something."

Suddenly the ground jumped in an herculean convulsion, and a screaming wall of gas threw them far down the slope. The ground shuddered and groaned in torture. Blast after blast of red shot gas fled over the covering bodies of the battered four. All the hellish gasses on Venus seemed to rush to this spot then burst out again in a frenzy of roaring destruction.

"Back to the tractors!" panted Vic, holding the directional wireless set before him. "The lava's coming." A second later he stared wildly at Ketting. "Ketting! the set's useless. The aerial is induced. We can't get back!" The little aerial atop the set stood rigid in his trembling hands.

"My God!" babbled the assistant. "The lava.... quick.... run!"

Even as they turned and ran in frantic bounds down the trembling mountain, the smoking black stuff touched their heels.

"To the left!" screamed Bob, jerking at Ketting's arm. The assistant screamed horribly and vanished into the depths of a widening chasm. A river of scalding acid rushed about their wastes, struck the lava behind them and exploded in vast billows of gas.

All the world roared and thundered. Glowing rocks and cinders made the raging grey scene a splendour of cascading blood drops. On, the dazed three staggered, their minds weary to death of the shuddering cataclysm around them. Time and again their battered bodies were hurled to the ground by a fresh quake, but although they could not know it, the lava no longer followed them. Only later did they realise what tremendous forces were shaping during that last run;

Ketting had stumbled to his knees with exhaustion, when, like the destruction of space itself, there smote the groaning trio an explosion that dulled all the rumbles and roars of the volcano to inaudibility. Stretched upon the ground, the three listened with screaming nerves to the terrific roars and rendings that smashed about them. How was this? It was the end of everything... of everything!

Blue flame played and flickered past them to be swallowed up.

Such was the fury of the noise that one by one the three found themselves unable to appreciate any variation in the continuous uproar. To their minds it became as a terrific pressure inside their heads. They shouted against it, but their voices were noiseless. It was a long time before they were aware that only the volcano was distantly rumbling; that the tremendous explosion had played itself out. Weakly they rose to their feet.

"Its over," said Vic in a monotone which was incapable of showing whether he felt any emotion about the subject.

"What was it? What had happened?" muttered Ketting. He sat down suddenly and held his head between his hands. "Awful. Awful." he groaned. "My head is splitting."

It was Vic who finally recovered enough balance to think clearly.

"It is safe to go back." he said. "I think I know what happened."

Dumbly they followed him up the faintly vibrating slope. A curious hush had come over everything. It seemed as though Nature had played her fury out and was now lying panting.

"Look!" said Vic stopping suddenly. He pointed down into nothingness. He picked up a large stone and threw it into the hanging fog. It disappeared and never struck ground within their hearing.

"It is the chasm that your assistant fell into, Ketting."

"You mean, all that noise was caused by this subsidence? It seems incredible!"

"No, that isn't it at all. A river of acid fell in here, and it fell onto.... well, figure it out for yourself."

The two stared blankly, then Ketting shouted, a strange high pitched shout. "The Vein! The vein! It's gone!"

Bob stood with his mouth agape whilst Ketting capered round him.

"Gone?" he mouthed. "How?"

"Short circuited, you ape. Eaten across. The circuit's broken. No more current; no more magnetism. Everything's fine, Hurray!"

"Lord yes!" said Bob and stood staring.

Ketting was so happy that he cried. He embraced Vic, then sat down because of weakness.

"How strange! How marvellous! How beautiful!" he said after a time. "All our troubles are over in those few minutes. We can go on with the road, and the iron deposits will pay and repay the cost over and over again."

"All that is left now is to get back to the tractors," said Vic. "The finder is O.K. now."

"TRAVEL BY WIRE!"

by

Arthur C. Clarke.

You people can have no idea of the troubles and trials we had to endure before we perfected the radio-transporter, not that it's quite perfect even yet. The greatest difficulty, as it had been in television thirty years before, was improving definition, and we spent nearly five years over that little problem. As you will have seen in the Science Museum, the first objected we transmitted was a wooden cube, which was assembled all right, only instead of being one solid block it consisted of millions of little spheres. In fact, it looked just like a solid edition of one of the early television pictures, for instead of dealing with the object molecule by molecule or better still electron by electron, our scanners took little chunks at a time.

This didn't matter for some things, but if we wanted to transmit objects of art, let alone human beings, we would have to improve the process considerably. This we managed to do by using the delta-ray scanners all round our subject, above, below, right, left, in front and behind. It was a lovely game synchronising all six, I can tell you, but when it was done we found that the transmitted elements were ultra-microscopic in size, which was quite good enough for most purposes.

Then, when they weren't looking, we borrowed a guinea pig from the biology people on the 37th. floor, and sent it through the apparatus. It came through in excellent condition, except for the fact it was dead. So we had to return it to its owner with a polite request for a post-mortem. They raved a bit at first, saying that the unfortunate creature had been inoculated with the only specimens of some germs they'd spent months rearing from the bottle. They were so annoyed, in fact, that they flatly refused our request.

Such insubordination on the part of mere biologists was of course deplorable, and we promptly generated a high-frequency field in their laboratory and gave them all fever for a few minutes. The post-mortem results came up in half an hour, the verdict being that the creature was in perfect condition but had died of shock, with a rider to the effect that if we wanted to try the experiment again we should blindfold our victims. We were also told that a combination lock had been fitted to the 37th. floor to protect it from the depredations of kleptomaniacal mechanics who should be washing cars in a garage. We could not let this pass, so we immediately X-rayed their lock and to their complete consternation told them what the key-word was.

That is the best of being in our line, you can always do what you like with the other people. The chemists on the next floor were our only serious rivals, but we generally came out on top. Yes, I remember that time they slipped some vile organic stuff into our lab. through a hole in the ceiling. We had to work in respirators for a month, but we had our revenge later. Every night after the staff had left, we used to send a dose of mild cosmic into the lab. and curdled all their beautiful precipitates, until one evening old Professor Hudson stayed behind and we nearly finished him off. But to get back to my story--

We obtained another guinea pig, chloroformed it, and sent it through the transmitter. To our delight, it revived. We immediately had it killed and stuffed for the benefit of posterity. You can see it in the museum with the rest of our apparatus.

But if we wanted to start a passenger service, this would never do - it would be too much like an operation to suit most people. However by cutting down the transmitting time to a ten-thousandth of a second, and thus reducing the shock, we managed to send another guinea pig in full possession of its faculties. This one was also stuffed.

The time had obviously come for one of us to try out the apparatus.

but as we realised what a loss it would be to humanity should anything go wrong, we found a suitable victim in the person of Professor Kingston, who teaches Greek or something foolish on the 197th. floor. We lured him to the transmitter with a copy of Homer, switched on the field, and by the row from the receiver, we knew he'd arrived safely and in full possession of his faculties, such as they were. We would have liked to have had him stuffed as well, but it couldn't be arranged.

After that we went through in turns, found the experience quite painless, and decided to put the device on the market. I expect you can remember the excitement there was when we first demonstrated our little toy to the Press. Of course we had the dickens of a job convincing them that it wasn't a fake, and they didn't really believe it until they had been through the transporter themselves. We drew the line, though, at Lord Rosscastle, who would have blown the fuses even if we could have got him into the transmitter.

This demonstration gave us so much publicity that we had no trouble at all in forming a company. We bade a reluctant farewell to the Research Foundation, told the remaining scientists that perhaps one day we'd heap coals of fire on their heads by sending them a few millions, and started to design our first commercial senders and receivers.

The first service was inaugurated on May 10th. 1962. The ceremony took place in London, at the transmitting end, though at the Paris receiver there were enormous crowds watching to see the first passengers arrive, and probably hoping they wouldn't. Amid cheers from the assembled thousands, the Prime Minister pressed a button (which wasn't connected to anything), the chief engineer threw a switch (which was) and a large Union Jack faded from view and appeared again in Paris, rather to the annoyance of some patriotic Frenchmen.

After that, passengers began to stream through at a rate which left the Customs officials helpless. The service was a great and instantaneous success, as we only charged £2 per person. This we considered very moderate, for the electricity used cost quite one hundredth of a penny.

Before long we had services to all the big cities of Europe, by cable that is, not radio. A wired system was safer, though it was dreadfully difficult to lay polyaxial cables, costing £500 a mile, under the Channel. Then, in conjunction with the Post Office, we began to develop internal services between the large towns. You may remember our slogans "Travel by Phone" and "It's quicker by Wire" which were heard everywhere in 1963. Soon, practically everyone used our circuits, and we were handling thousands of tons of freight per day.

Naturally, there were accidents, but we could point out that we had done what no Minister of Transport had ever done, reduced road fatalities to a mere ten thousand a year. We lost one client in six million, which was pretty good even to start with, though our record is even better now. Some of the mishaps that occurred were very peculiar indeed, and in fact there are quite a few cases which we haven't explained to the dependents yet, or to the insurance companies either.

One common complaint was earthing along the line. When that happened, our unfortunate passenger was just dissipated into nothingness. I suppose his or her molecules would be distributed more or less evenly over the entire earth. I remember one particularly gruesome accident when the apparatus failed in the middle of a transmission. You can guess the result... Perhaps even worse was what happened when two lines got crossed and the currents were mixed.

Of course, not all accidents were as bad as these. Sometimes, owing to a high resistance in the circuit, a passenger would lose anything up to five stone in transit, which generally cost us about £1000 and enough free meals to restore the missing enbonpoint. Fortunately, we were soon able to make money out of this affair, for fat people came along to be reduced to manageable dimensions. We made a special apparatus which transmitted massive dowagers round resistance coils and re-assembled them where they started, minus the cause of the trouble. "So quick, my dear, and quite painless! I'm sure they could take off

that 150 pounds you want to lose in no time! Or is it 200?"

We also had a good deal of trouble through interference and induction. You see, our apparatus picked up various electrical disturbances and superimposed them on the object under transmission. As a result many people came out looking like nothing on earth and very little on Mars or Venus. They could usually be straightened out by the plastic surgeons, but some of the products had to be seen to be believed.

Fortunately these difficulties have been largely overcome now that we use the micro-beams for our carrier, though now and then accidents still occur. I expect you remember that big lawsuit we had last year with Lita Cordova, the television star, who claimed £1,000,000 damages from us for alleged loss of beauty. She asserted that one of her eyes had moved during a transmission, but I couldn't see any difference myself and nor could the jury, who had enough opportunity. She had hysterics in the court when our Chief Electrician went into the box and said bluntly, to the alarm of both sides' lawyers, that if anything really had gone wrong with the transmission, Miss Cordova wouldn't have been able to recognise herself had any cruel person handed her a mirror.

Lots of people ask us when we'll have a service to Venus or Mars. Doubtless that will come in time, but of course the difficulties are pretty considerable. There is so much sun static in space, not to mention the various reflecting layers everywhere. Even the micro-waves are stopped by the Appleton "Q" layer at 100,000 Km, you know. Until we can pierce that, interplanetary shares are still safe.

Well, I see it's nearly 22, so I'd best be leaving. I have to be in New York by midnight. What's that? Oh, no, I'm going by 'plane. I don't travel by wire". You see, I helped invent the thing!

Rockets for me! Good-night!

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"MR. HAZEL'S MIRACLE CARPET."

by

Eric C. Williams.

I've always regretted that I never told the old man to write down his wiring scheme, but the whole thing happened so darn quick that it never entered my head to look to the future. Anyhow, some bright inventor might be able to work out the idea from what I remember, so as far as I can recall, here is what happened.

Being somewhat of a collector by disposition, and rich and idle enough to pamper my tastes, it is sometimes my appointed task to visit all the old curio shops in London looking for Chinese idols, old brass pots, weird chess sets, silver chamber pots, books, and in short, anything peculiar or old.

This particular morning I had worked my way round as far as Greenwich exploring all the little alleys and cul-de-sacs, until with the MG's tank almost void, I came across a little single fronted shop called very ingeniously and not a little artistically "Antiques and Curios". On the pavement in front of the china-letter bespattered window was a stall of tattered magazines and books. Behind these and protected by the grimy window was an old banjo, a tall glazed vase (Hi-Ho dynasty, I suppose), some swords, and a miscellany of whistles, bottles with ships fully rigged in them, tennis balls, china ornaments, books and walking sticks. I wasn't much interested in this startling accumulation as I knew by long experience that these dealers have a peculiar habit of keeping their best stuff in the back of the shop. I opened the jangling door and breathing very shallowly, entered the black labyrinth which constituted this particular stock display.

It was miraculous how it happened, but suddenly I knew there was a villainous looking Italian standing before me. His eyes literally gleamed past me to the MG parked before the door, and his hands began to foam and bubble with invisible soap.

"Anything interesting?" I asked shortly for I knew that this particular merchant of Greenwich knew all the tricks of buying and selling.

He eyed me speculatively.

"Spears, mummified native heads, suits of armour, furniture." he offered vaguely but withal hinting at a simply infinitude of alternatives.

I snorted in disgust.

He eyed me in a most disconcerting way. Suddenly he grabbed my arm and said, "Come! I have something which is just what you want."

I followed him distrustfully around a huge pile of stinking books, ducked under an arch of spears, shields and old clothes, then waited while he busied himself with unwrapping something on the floor.

"What is it?" I asked.

"It is the only one in the world," he wheezed up at me. "Very valuable, —there —look!"

In the dim light I could see he was unrolling a carpet.

"I don't want a carpet!" I declared angrily.

He straightened up quickly and laid a greasy detaining hand on my lapel.

"You don't understand. This is a "Magic" carpet; it flies!"

"Book!" I retorted. "I've seen at least a dozen of them made and imported direct from Cairo."

"But listen, you do not understand," he wheeled very excited. "An old man - I know him all my life - sold me this. Look, it is made of wires. He told me it would fly if you knew the secret. Feel it! How fine it is! Even if it does not fly it will make a wonderful carpet."

He thrust the corner of the dusty thing into my hands, and unrolled the rest to my view. I must admit it was a marvellous piece of work, being constructed out of millions of wires of three distinct colours. They seemed woven together in a pile of half an inch thickness, and produced a most amazing effect of a three dimensional pattern.

"Make a fine mattress." I said cynically.

"Don't forget it flies." urged my tempter.

"What's all this about flying?" I asked exasperated at his insistence. "Don't think I'll fall for that, do you?"

He shrugged.

"I merely take the word of an old friend. Mr. Hazel who lived down the road bought it in one day and told me he had been working on it for three years. He said it was a new kind of flying thing. He asked me to keep it until he came back but he has never been for six months, so...."

The Italian spread wide his hands in a nationalistic gesture of despair.

"Hum." I said, stroking my chin. "How much?"

"Five pounds, take it or leave it. Myself I would rather keep it in case Mr. Hazel comes back."

"Better stick to it." I said without ado, and went sauntering back into the shop.

The Italian was in a quandry; he could see that I didn't really want the thing and yet he knew that he couldn't hope to sell it to anybody else for as much as he was likely to get out of me.

"Four pounds." he called after me.

"Two pounds or nothing." I answered mercilessly. I had taken a particular dislike to this specimen.

"Two pounds ten." he fended.

I sighed and turned again.

"Alright." he agreed, and went muttering angrily back to the carpet roll. I listened happily to him swearing at my character from behind the pile of books, and then I let him carry the thing out to the car.

"By the way," I asked him. "Where does this carpet maker hang out?"

He muttered something about driving a bargain to the last drop of blood, and then spat out an address nearby. I thanked him cordially and paid him his money. The last I saw of him was a dishevelled figure kicking heartily at the crowd of children who had gathered round.

At the address given I found that Mr. Hazel had left a long time ago and had gone to live at a friend's house in the next street. In the next street I was fiercely told to go to the "Red" **** wprk-'ouse for the old twister.

By now I was right into the chase and having the day before me and a refilled petrol tank, I decided to see the thing out. Why, I

couldn't say. I suppose it is something to do with being idle and rich, but there, if I could do the man a good turn it would be a satisfactory day's work.

At the Greenwich Poor Institute I was very warmly and oilily welcomed, and urged to sit before the fire while Mr. Hazel was being sent for. After a time the door of the bare room opened and a nervous yellow faced old man came in.

"Want me?" he jerked, standing just inside the door-way.

"Are you Mr. Hazel?" I returned.

"Yes, that's me," said the old man still retaining his grip on the door-knob.

"I'd like to help you." I said. "Come in and sit down."

I think he was half suspicious of me for he said nothing and sat very slowly on the chair edge.

"I found out today," I went on, "that you once made a carpet of wires."

His mouth gaped open. "Who told you?" he shot out, jumping up.

"An Italian in an antique shop; in fact, he sold me the carpet."

"He sold it!" spluttered the old man shaking terribly. I told him to mind it so that these people wouldn't take it. Where is it?"

I stared at him blankly. He was jumping up and down before me, his eyes almost popping out in his excitement.

"Downstairs." I told him. Then; "Wait a minute," I called for he made to rush out. "I want to ask you something about the carpet."

He stopped. "Quick, what is it?"

I floundered for a moment - the man was almost rude; anyone would think I was a criminal for buying his rotten carpet, but I retained my calm and said, "What is there special about the carpet?"

"It flies." he jerked. "It is my life work; a scientific achievement, but let me see it please - now."

After a bit of bother with the authorities, I was able to take my prodigy down to the car. On seeing his beloved carpet slung across the rear seat, he gave a high pitched squeak and began rolling the contrapt all over the pavement. He pored over every pattern and turned the heavy square over and over searching for any breaks.

"Thank God!" he breathed at last to himself. "It is not disarranged."

"Come on, old fellow." I urged at length for a big crowd had gathered round and were at that stage of mass psychology when things become hilarious. I helped him roll the carpet up and put him with it in the back seat, then with a cheer from the crowd we were off on the way to my house at Ewell.

What I have to say now will take some believing, but you can take it as a joke on my part, or as the basis of a new scientific miracle; I don't care much.

After feeding the old fellow up and decking him out in one of my spare suits, I persuaded him to leave his precious carpet and give me an explanation of the whole affair.

"It's very simple in its elements," he said. "All it consists off is three, hundred mile insulated wires twined in and out in a certain pattern so that when a current flows through, there is set up an extra complex magnetic field which, because of the interlinking, has no line

of force. One set of lines is superimposed between another. This is what I call solid magnetism; it should according to my theories cut out the force of gravity - that is if my theories are correct."

I frowned at this.

"Just what is your knowledge of physics?" I asked.

"Not much," he answered frankly. "All these ideas were my father's. He thought it out and left for me to carry on."

"How?" said I pursuing my questioning further, "Did your father plan to over-come the terrific resistance of these hundred mile circuits?"

"That's easy," he answered. "Just lower the carpet into a sealed tank of liquid air and your resistance is reduced to practically nil."

"So," I said dubiously, "all you need is a tank of liquid air."

He stared at me eagerly, his rheumy eyes sparkling.

"That's all. Only a small outlay and you will have the world's greatest discovery in hands." He waited tense.

"O.K.!" I said. "You will have the stuff by next week."

That week saw my garage a confusion of cylinders, pipes and wires. The old man potted about every day with his carpet, tracing out the wires and rigging up the batteries onto the side of the alloy tank which was to hold the carpet submerged in liquid air.

I couldn't help thinking myself a fool. Here was I paying out hundreds of pounds for an idea which sounded as sensible as the flights of the original carpet of Bagdad. Thank goodness the pater had been particularly brainy at stocks and shares.

Well, the time came when old Hazel screwed down the cap of the tank, and said that all was ready. We wheeled the large flat tank out onto the lawn and situated it so that it would have a clear ascent.

"Mind the rose bushes as you come down!" I warned the old chap as he bent down and fastened the wires to the switch which was to connect the batteries through a variable resistance to the carpet inside the tank of liquid air. He looked up happily and gleefully told me that when his carpet was fully tested, we would be the richest men in the world, then there would be no more work houses for him and acres of roses for me.

He hastily shook hands with me, then sat cross-legged on the tank top.

"I'll only go a little way up," he told me, then fumbled with the little switch.

Slowly he drifted up past me, six feet, ten, twenty. I stared goggle-eyed. It was unbelievable there he was grinning down at me suspended thirty feet in the air on the power from three, two volt batteries.

"Come down!" I shouted impulsively.

"It's quite safe," came his voice faintly. "All I want now is a propeller."

Swiftly the square of the tank grew smaller to my eyes as it rose. Now and again a black blob appeared over the side for a second, and once he waved with both arms. Higher and higher until I saw it melt into a cloud overhead. I waited tensely on the lawn. The best part of an hour went by. I stamped up and down the garden path in a frenzy of doubt. Curse the old ass for keeping up so long; supposing something had stuck and he couldn't stop going up! Maybe he had been blown along by the wind and had come down beyond the Downs; then maybe he had fallen off

and the machine gone on up.

I ferreted out hundreds of gloomy possibilities, my mind seemed to run in a groove of disaster. Surely he would never have stayed up so long of his own free will...

The hours slipped by and the rain storm which had been slowly building up ever since the old man disappeared, now came roaring over the Downs. I retired into the library and stood staring mournfully out onto the lawn. I felt as if I had committed a murder. I had sent the old man to his doom, perhaps he was lying now a crushed heap on the top of some Down. Suddenly the telephone rang. I grabbed it up and gave my name.

"This is Inspector Griffin of the Duncton police, sir. Constable Jones reports that he has found a message addressed to you."

"A message?" I rasped.

"Yes, sir, he says it came drifting down from the sky pushed through the middle of a large nut, a handkerchief was attached like a parachute affair. Shall I read it, sir?"

"Yes, yes, go on man." I hurried. "Read it!"

"It's a bit peculiar, sir, but this is it. 'Dear Mr. Millenton. There was one little thing my father overlooked in the carpet. When a current is set flowing in a wire dipped in liquid gas, that current keeps on flowing even after its source is cut off. I have shut off the current in my carpet but I am still going up. It's getting very cold and I suppose that soon I will not be able to breathe. Still, I am not afraid to die because I'm old and you giving me the chance to test out my father's invention is about all I could have wished for. So goodbye and thank you very much. I am your respectful servant, Charles L. Hazel.'"

The voice at the other end paused, then asked; "Did you get that, sir?"

"Thank you." I choked and dropped the phone back.

THE END.
