

The Sorcerer's Apprentice

by Colin Keith, 1891-1945

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Sometimes the simplest and most reasonable request brings astonishing results.

The fiasco at the big No.1 Plant atop Pikes Peak began like this.

„Hoskins,“ said the man known the world over as The Sorcerer, turning from the empty water cooler, „will you pick up the phone please and call the storeroom down at the ten-thousand-foot level and ask them to send up a bottle of mineral water? This one is dry.“

„Yes, Sir,“ said Hoskins, obediently, and began flicking the number. He clicked impatiently several times, then announced, „The phone’s dead.“

„That’s so,“ agreed The Sorcerer. „I forgot. They are having some trouble in No. 31 Distribution Station. The phones may be out for another hour. But I’m thirsty as hell. Won’t you hop on the elevator, like a good boy, and drop down and bring up one yourself?“

„Y-yes, Sir,“ acknowledged Hoskins, reluctantly. He was the junior most of the six young scientists honored with the appointment of being understudies to the foremost scientist of all time. It grieved him to be asked to do what he regarded as menial things. It was not fitting to his august position. But he

shoved away the mass of formulas he was working on and got grudgingly to his feet. With just a show of sulkiness—enough to be unmistakable, yet discreet—he slouched toward the door.

„Dumb egg, that,“ whispered Bob Hallet to Freddie Palmer, next to him. „How in the name of Einstein did he ever get this far?“

„Sh-h-h,“ cautioned Palmer. „Didn't you know? He's Sol Hoskins' nephew—“

„You mean the General Director of Production at Washington? Oh!“

And that is the end of that scene. Nearly an hour later The Sorcerer rose, stretched and yawned.

„Well, boys,“ he called, „let's call it half a day and drop down to the Quick-and-Dirty and snatch a bite of chow. Looks as if the kid fell down the shaft or something.“

The other five young men slid their papers together and rose, delighted at the invitation for a recess. Their chief was a difficult man in many respects. He was a hound for work and no respecter of hours. Moreover, he expected his whole staff to work with him, minute for minute. Often stretches of as long as fifteen and twenty hours occurred, without the slightest break. Today the chief seemed unusually genial and relaxed. They followed him respectfully down the corridor to the western bank of elevators. In a moment they would be down at the six-thousand-foot level and would climb into a subway car bound for the officers' restaurant in Manitou. They had no way of knowing whether they would be there five minutes or three hours, for the chief might be in one of his rare talkative moods. Again, he might be seized with a new idea even as he was ordering the meal, and drag them back again on the run to their desks. Being understudy to The Sorcerer had its points, but not all of them were good.

That day, though, The Sorcerer was in an expansive mood and they had a good lunch and dawdled long over it. He told his helpers many things about himself that they only partially knew from common rumor.

Christened Algernon Leroy Sillywood, he had never cared for the name. Instead, he let people call him Bucky. It was not until he had unearthed and deciphered the cryptic formula left behind by Einstein that he came to be known universally as The Sorcerer. He was a spare man, just turned forty, with a bronzed skin and a manelike head of irongray hair. In his youth he had been a civil engineer, but he had the rare quality of combining both practical common sense and the most ethereal and far-flung imaginative mathematical mind. That accounted for his double miracle. First he had comprehended that single line of mystical symbols penned by Einstein in his declining years in which was stated the ultimate formula that binds space, time, gravity and all the electrical phenomena together. On top of that, he had been able to apply them to practical use.

He was called The Sorcerer for good reason, although he in no way resembled the picture favored by illustrators of weird stories. He dealt with interstellar and interplanetary forces. He dealt with the marvelous alchemy of transmutation of the elements. The marriage of those two dealings was perfectly expressed in the great No. 1 Plant atop Pikes Peak. There it was that all the continent's—most of the world's, for that matter—raw materials were produced. It mattered not in the least what was asked for—gold, diamonds of any size, hay, or helium gas. He could turn it out by the ton per second. The beautiful thing about it was that it all came out of thin air, and those who have clawed their way up the

Peak on hand and foot know how exceedingly thin that air becomes just before the summit is reached.

But that day he sat late at the table and told his disciples how he had first thought of the analogy between a rotating, revolving planet and the an-nature of a big electric generator. He explained briefly the field of gravitic lines of force extending between all the heavenly bodies, and spoke of the terrific magnitude of those forces, and of how they could be tapped to yield undreamed-of power and yet not be diminished appreciably.

„They wasted time for years,“ he said, „with cyclotrons and such crude implements, trying to disintegrate the atom. They succeeded, but the input of power needed was so much greater than the value of the results obtained that it simply didn't pay. I saw at once that we were putting the cart before the horse. What we wanted to do was integrate the atom—assemble it, working from fairly simple elements. That needs power, too, but with the Einstein formula as a guide, we found scads of power. Up there on the hill we drag down billions of horsepower per second and could have a thousand times that much if we chose to utilize it. But we need no more than we take now—“

A frightened waiter ran into the room. He swirled to a pause in the center of the floor.

„Ladies and gentlemen,“ he called, "keep calm, just a moment, please. There is a bad flood outside. You had all better go up onto the roof. The management is taking what steps it can.“

The Sorcerer raised his eyebrows and looked about him at his subordinates. It was still very early summer and the canyon streams had not begun to run very strong. Where would a flood be coming from at this season?

„Let's go to the window and look,“ he suggested calmly, placing his napkin on the table and shoving back his chair.

What they saw from the window was breath-taking. The street was filled with a rushing torrent of clear mountain water, flooding out of the narrow canyon just above the town. Lamp-posts stood sturdily for a moment, then leaned over like reeds and disappeared beneath the waves. It was rising visibly, foot by foot, and flowing swiftly in the extreme. A small bungalow came by, turning slowly over and over. The heads of frantic swimmers could be glimpsed, battling the current.

„What the hell,“ said The Sorcerer, dryly, „do you suppose is going on up the hill?“

There was plenty going on up the hill, as he so disparagingly referred to the majestic peak above them. To understand just what, perhaps it would be best to go back to Mr. Hoskins and his errand.

He went first to the eastern bank of elevators that led down into the bowels of the mountain. They were as dead as the phones and he recalled then that their power came through the substation that was in trouble. He looked at the door leading to the emergency stairs and sighed. It was close to half a mile straight down to where he had to go—a fearful climb, especially coming back with a five-gallon bottle of water on the shoulder. Yet when The Sorcerer sent a man for a thing, it was not wise for that man to go back without it. The one thing the chief was not interested in was excuses.

Hoskins sighed again, but there seemed to be no way out for him. He drew the door open and began the long descent. Two levels below, though, a happy

idea seized him, and with leaps and bounds he went back up the flights he had just descended. There were other ways of getting water.

He ran back along the corridor until he came to the set of elevators to the south—the ones that led to the summit, where the control room was located and the vast intake blowers. Those, he found to his immense delight, were working. A moment later he stepped out onto the vast gallery that housed the gigantic atomic converters and walked down the aisle between rows of them, hearing the monotonous drone of their humming as the indrawn nitrogen and oxygen atoms underwent their magical transformation into a myriad of more complex substances more urgently wanted by man. Before tackling the short circular staircase that led upward to The Sorcerer's private laboratory above, he paused for a moment to get his breath, and leaned across the sill of the casemate cut through the face of the living rock.

The view from that point always possessed grandeur, but now that man had wholly preempted the rock, its interest was even greater. For the upland valleys far below, that once had held nothing but useless lakes of icy water and a few scraggy pines, now teemed with industry. Everywhere fabricating plants sprawled, putting the finishing touches to the raw materials being constantly fed them by the plant above.

The mountain itself, viewed from afar, appeared as a pinnacle upon which a giant octopus had fastened. In that conception the control house at the summit and the immense intakes formed the body, while the seemingly clinging tentacles that straggled down the Peak's flanks in all directions were explained by the fact that they were the tremendous penstocklike conveyors by which the newly created molecules were delivered to the waiting factories below.

For example, to Hoskins' right was a throbbing tube a hundred feet in diameter down which nascent molecules of vanadium steel were being swirled. At a certain level below, these would condense into an impalpable powder and fall eventually into a hopper in the steel mill beneath. There men would fuse the powder in electric furnaces and then roll it to whatever shape was desired. The corresponding tube to the left was palpitating with newborn cellulose particles which would fall into the bins of the textile mills as long silky fibers of great strength, needing only to be spun into strong durable thread, and then woven.

Other tubes which he could not see were delivering other products, such as the one which continually carried a stream of a rich mixture of hydrocarbons to the storage tanks far down the valley—aviation gas, correct to the last tiny fraction. There was the one spouting gold dust, which had many uses. Roofs, storage tanks and ships did not rust so readily when plated with the inert stuff. Hoskins knew all that, for he had been in the plant for more than a year.

He got his breath, then clambered up to the next level, where the operating panels were set. Above each converting element stood its own switchboard, studded with many tiny knobs and volume indicators. He also knew what those were. Each knob stood for an element, and where desirable, another for each isotope of that element. The verniers controlled the percentage, so that it was possible to set up on the board the right combination of controls for the most complicated organic chemical. Rheostats regulated the volume, and automatic cut-offs were provided to stop production the moment the required tonnage had been run through.

He went past those, too, without stopping, until he came to the ladder that was the end of his short climb. At its top was the little office used only by the chief and his six closest assistants. Hoskins, naturally, had the key to it.

„Gee whiz!“ he exclaimed, as he stepped into the door. The bottle which stood in the chief’s sanctum and which should have been full or nearly so, was as empty as the one in the lower office. The porter had fallen down on the job. Hoskins’ hopes of swiping this one and carrying it down were dashed. And there was no substitute that the chief would accept. He would have to go down to the storeroom after all.

Then his eye fell on the label. There it was stated in very exact percentages just what it was that gave the water the particular tang that made The Sorcerer demand it. It had iron, it had sulphur, it had several bitter chlorides and a pair of obscure phosphates in it. But there it was, the whole formula.

Hoskins had another of his sudden and not too brilliant inspirations. He shifted his disgusted glance to the little model machine that had been The Sorcerer’s first successful converter. He had kept it installed in this private study for sentimental reasons. Hoskins looked at it again, and suddenly his face cracked into a smile.

„Why, sure,“ he told himself. „I’ll make the stuff. Why not?“

He turned to the control board—the only one in the room. He studied its maze of dials and knobs. Then he began setting them to match the formula derived from the chemical analysis of the spring water. As soon as they were all set, he upended the bottle and set it under the delivery end of the small machine. Then he went back and threw the switch.

There was a flicker as the lights momentarily dimmed, and the impassive board began to groan as the cosmic power surged through it. But not a drop of water came from the little converter on the floor. Hoskins doubled the power, then trebled it. Still nothing happened.

„Ah,“ he said, comprehending at last what he had failed to do. Someone had broken the connection between the machine and the board. He pushed the switch in and went over and held his bottle. In a second now there would be water. He would not have to go to the storeroom after all.

Yes. He got water.

The reducer at the delivery end of the miniature machine blew off with a cannonlike roar and Hoskins knew vaguely that the bottle he had been holding an instant before had gone somewhere else. And as the edge of the three-foot cylinder of gushing water caught him and shot him out the door, he knew he had gone somewhere else, too. He was dizzily aware of going over Niagara and making a parabola in midair, only to come up hard on the floor plates of the operating deck below. Torrents of clear spring water were pouring out the door above him, and but for their force, he might have been drowned. But the volume and pressure were so great that the sideways push of it slid him out from under and tumbled him across the floor. He staggered to his feet a good twenty yards away, and found himself ankle-deep in fast-running water.

Hoskins was scared by then. He knew he had done something wrong. He wanted to get back there and open that switch, or at least cut down the power. But he saw at a glance that that was out. A solid stream of water against which no man could hope to stand was gushing from the laboratory door and splashing to the control floor below.

„Oh, golly,“ moaned poor Hoskins, „I’ve played hell now. I guess I’d better tell the chief.“

So he sloshed along and waded his way to the circular staircase, which was by then a spectacular spiral cascade. But he clung to its handrail and got down to the level where the casemate was. The water was not deep there, so far, and the going was better. He made the elevator, very wet and very shaken, but he made it. He hoped devoutly, all the way down, that the stuff then raining down the shaft would not short the motors at the bottom before he could get to his floor.

But there he was to be disappointed again. The Sorcerer had gone to lunch and taken all his associates with him. A note left on the desk told him so. So Hoskins went back to the elevator and listened miserably to the falling water a moment. Then he ran as fast as his legs could carry him to the eastern bank. He was panting like a dog when he emerged at the Manitou end of the tunnel. What he saw there did not encourage him.

„Oh, golly,“ he reiterated, when he saw the raging flood that separated him from his chief.

„There’s a freshet or something,“ remarked the doorman, looking out upon a town awash.

„Yeah, something,“ mumbled Hoskins, miserably. „Where’s the nearest place I can get a boat?“

The doorman scratched his head. He had never been asked such a question before.

„Galveston, I reckon—this is the Rocky Mountains, you know. If you’re figuring on getting down to the club, I’d say the best way was to swim.“

Hoskins sat down and began taking his shoes off. It was going to be terrible, but he had to face the music.

If Hoskins had known the whole of it, he might not have kept up his swimming so strenuously. In his mortification at realizing the full enormity of what he had done, he might have ducked his head and taken one deep breath of the water he had so abundantly created and thereby ended it all as far as he was concerned. For unbeknownst to him, that panel that stood in the chief’s laboratory controlled every converter in the Peak. When actuated, its forces jumped the set-up on other boards, and put all the machines to work on the same product. Once a raging forest fire had suggested the idea to The Sorcerer. Should the mountainside burn again, instead of losing several plants as they had done the time before, it would be easy to cut all production and flood the lower valley with CO₂.

Consequently, when Hoskins set up the mineral-water formula and threw in the switch, the converters just below were shunted over to a new schedule of production. They canceled whatever they were doing and began to produce water. He did not know that, for he was looking at the small experimental machine in the room with him, and that one formed no part in the general hookup. When he finally connected it with the others, he got his water, but more of it than he had bargained for, since in the meantime he had sextupled the power. It flung him out of the room and started him on his long shoot-the-chutes to find his boss, quite innocent of what was happening in the fabricating establishments below.

In the steel mill, for example, the superintendent of the watch happened to be standing near the outfall of the great delivery tube at the time Hoskins

closed the master switch. He was observing the operation of the intricate system of conveyor belts that caught the downpour of silvery powder and distributed it to the rows of continuous electric furnaces that reached down the length of the bay, when he was suddenly flabbergasted at being hurled from the platform by the avalanche of clear water that rushed out upon him. Eventually he found his feet in the swirling torrent that spread out on the ingot-handling floor below, only to see the furnaces flash blue flame to the tune of a thunderous crash as the short-circuiting liquid flowed in between the points of their electrodes.

An astonished craneman, on the point of picking up a dazzling ingot mold, just filled to overflowing, was aghast to see a torrent of water pour down upon it. Instantly he was clawing for breath as clouds of upsurging steam filled all space, and for a long time after that he did not know what was happening. The flood rushed on and tumbled down the incline to the next level, where the rolling mills were. Traveling lines of white-hot ingots reddened and disappeared from sight under the all-pervading steam. The lights went out. After that, unadulterated pandemonium reigned.

The chief forelady in the great automatic textile mill had as rough an experience. She was standing by the carders, seeing how they sorted and laid side by side the fluffy fibers being fed down from above. What happened next she never knew, except that she found herself swimming frantically and snatching at the wet, clingy, mosslike stuff that kept getting into her nostrils. She saw the endless rows of whirling spindles flash by as she was borne through them by the irresistible torrent. She was hurled through a door into the weaving department, where the flood spread out so that she battered her knees against the hard pavement each time it rolled her over. She grabbed at a clacking loom just as she was about to be swept past it and managed to clamber to her feet. She did not look back, but splashed along through calf-deep swift water until she reached the outer door. There she gave one thankful yelp and began clawing for high ground.

Over at the gasoline plant the scene was slightly different. They were used to handling liquids there, and the superficial differences between high-test gasoline and spring water are not startling. Yet the head gauger knew at once that something had gone screwy.

„Look, Joe,“ he called to his helper. „What do you make of this gravity reading? And the stuff don't smell. What do you think?“

Joe looked and Joe sniffed.

„I think,“ he drawled, after long consideration, „that somebody up there has pulled a boner. The stuff's water.“

„Shut the main gate, then,“ snapped the gauger. „I'll give 'em a buzz and raise hell with 'em. I've always wanted to get something on 'em, and here it is.“

Joe reached for the button that operated the motor that drove the huge gate valve that would shut off the feeder. The motor groaned and did its work; the valve closed. But the huge penstock was designed to carry running gasoline, not water, nor had its builders meant it to be used as a standpipe. A six-thousand-foot head of water develops an appreciable static pressure. As more and more was fed down into the same confined space the inevitable happened—the colossal pipe split from end to end with a cracking boom that sounded like the roar of doom. Hundreds of thousands of tons of water squirted out onto the

Mountainside and a moment later were leaping down the slope carrying an avalanche of granite debris and boulders on every side.

„Scram!“ warned the gauger, and the pair abandoned their posts without ceremony. Twenty minutes later they were safe in the top of a tall spruce, miles below, staring down at the torrent that swept beneath them.

„Yeah,“ agreed the gauger, belatedly, shifting his hold on the swaying branch. „You’re right. Somebody pulled a boner. It’s not only the wrong kind, but too much.“

„Uh, huh,“ nodded Joe.

So it went elsewhere. The canyons flanking Pikes Peak spouted water and more water, and ever more water. Borne on the tumultuous surface of it was the wreckage of the fabricating plants.

Those by-products of his efforts to refill a water bottle were unknown to Hoskins as the current swept him by the officers’ club in Manitou. He only knew that what had formerly been a six-story building now appeared to be but two, and that its flat roof was jammed with people, all looking anxiously up at the Peak, from whose every casemate and orifice water was spouting. He summoned up his last reserve of wind and struck out into the backwater eddying downstream from the building. A moment later he was dragging his wet and bedraggled form over the sill of a fourth-floor window. It happened to be the window of the manager’s office. The Sorcerer was at the radiophone. Hoskins lay limp and panting for a few minutes just where he fell.

„But, governor,“ The Sorcerer was saying, „you can’t do that. It’s all very well to say that our plant has gone crazy. I know it. I’m thinking about the Arkansas River bridges, too, and the general sodden nature of this part of your State, but if you go through with that idea of getting up long-range railway batteries and using army bombers, you won’t have any State under you to worry about. All there’ll be will be a crater extending from Salt Lake City over into the middle of Kansas. There is power undreamed of flowing into that mountain and all that is needed to set it off is to have one of your dumb bombers hit the right spot—“

(Sputterings from the regional governor in Denver.)

„I know, I know,“ broke in The Sorcerer, „but hold your horses. Let me have a chance first. How about sending me over one of those helicopters? There is no other way I can see to get up there. Yes? O. K., I’ll wait for it.“

The Sorcerer broke the connection and wheeled. It was then he saw the dripping figure of his sixth assistant, sitting miserably by the window.

„Well,“ he snapped, „what’s the story? I sent you for water. I see we have some. What did you do-step by step?“ Shamefaced and hangdog, Hoskins told him, with much stammering and attempts at self-excuse.

„Ah,“ said The Sorcerer, „so I suspected.“

He glowered at the boy a moment, then turned and walked out. It was no time for recriminations. The water was already over the dam, so to speak. He went to the roof, his abject and repentant assistant following. Hoskins knew that sooner or later the lightning would strike—he might as well play the man as best he could about it, for there was no escape. Meanwhile, The Sorcerer paced the roof, his jaws set grimly, and alternately studying the gushing heights and the skies to the northward. Eventually, the helicopter came.

„Come on, you fellows,“ ordered The Sorcerer, „hop in with me.“

Even the sniffling black sheep followed.

They got out on the topmost roof. The Sorcerer began barking orders.

„You, Palmer—take a couple of helpers and climb down the slope there and break that cosmic-power connection. Hallet! Take Wilson with you and shut off those air-intake motors. You will find the board in that turret over there—the square one. I’ll go down and try to get to the master switch.“

He lifted a batch and stared down at the swirling flood that filled even the uppermost levels of the vast building. It was dark and forbidding down there, but the flood must stop. The Sorcerer shed his clothes, then went down the ladder, rung by rung.

He fought his way through the raging, surging waters until he found the door to his laboratory whence they came. There was a little space overhead, and he managed to get through. He swam to where he knew the switchboard was. There he held his breath and dived. His hand found the master switch and pulled it open. Intra-cosmic gravitic power is unlike electric current. Immersion in water does not shortcircuit it; it augments it.

He rose to the surface and waited, hanging on to the edge of the panel as the residual waters gurgled out of the room. Being the highest spot on the Peak, it soon drained. The Sorcerer watched it go until there was a bare few inches left. Then he waded back to the ladder, leaving the now barely dripping converter behind him. With quick pulls of the arms and legs he mounted to the roof where his thoroughly terrified disciple awaited him. He threw him one stony glance, then strode to the parapet, naked as he was, and studied the terrain beneath. Water had already ceased to spurt from the upper casemates, and the flow lower down was abating rapidly. The Sorcerer watched the lessening flood a moment, thinking all the while about his assistant, Hoskins. After all, the fellow was hardly more than a kid, and the damage done was irremediable. Moreover, The Sorcerer was an intensely practical man—Hoskins, whatever he was, was the favorite nephew of the most powerful politician in the country, the man who made and broke chief engineers. But it was not cynical compromise with practical necessity half as much as the sheer inadequacy of any effort at punishment or at securing retribution that in the end decided The Sorcerer upon his course.

He straightened up and turned, beckoning Hoskins to come to him. The boy came over, expecting the worst.

„By the way, Hoskins,“ remarked The Sorcerer, most casually, „I suppose that after this you will be wanting to get out of the molecular-conversion game, and go back to your folks at Washington?“

„Yes, sir,“ agreed Hoskins, with a readiness that was pathetic.

„So. Well, my boy, let me give you a rule to remember. The next time someone asks you to bring him five gallons of water, bring him that—neither more nor less. Overdoing a thing is often as bad a fault as failing to do it altogether. Do you understand?“

„Yes, sir,“ said Hoskins, meekly, „I think I can remember that.“

