

# THE UNKNOWN QUANTITY.

By ALICK MUNRO.\*



MERRICK was a crank. There were even those who said that he was a dangerous crank and feared for his sanity. I thought him an enthusiast and knew him to be an extraordinarily able mathematician; and I had suspicions that he had been experimenting lately with opium. These facts, I thought, accounted for most things.

Moreover, he was a Don, and I was only an undergraduate in my fourth year. So when he condescended to make a chum of me during that Vac., I was flattered; and when people—the Dean among others—shook their heads forebodingly and hinted that he was on the road to a lunatic asylum, I made it a point of honour to lose my temper in his defence.

I had come up early to Oxford that term to read for my physiology finals, and to put in a little dissecting at the Museum before the lectures began. Merrick invariably spent his Christmas vacations in Oxford, and the Dean had come up to attend to official business, so we three had the college to ourselves. Four nights before the beginning of term, I was reading in my rooms, very late, when Merrick flung the door open suddenly and stood in the doorway, laughing and making quick little movements with his fingers. The cord of his dressing-gown caught for a moment in the wire letter-box of the "oak," and the heavy door closed with a snap behind him, shutting out the light from the gas-jets on the staircase. He stood in the space between the two doors, smiling with the leer of a cathedral grotesque, and my reading-lamp picked him out in silhouette against the black panels. It was a curious picture, elfish and uncanny; for he was ugly, with the fine ugliness of perfect features which do not match. His shadow on the "oak" was a nightmare by Doré.

I closed my notebook and pointed to a

chair. He threw himself into it, laughing still. I noticed that the pupils of his eyes were shrunk to pin-points, and there was the gleam of a faint perspiration on his forehead. I leaned over quickly and touched his hand. He had crossed two quads to come from his rooms to mine, and I had seen an hour ago that the thermometer at the foot of the staircase registered fourteen degrees of frost; but his skin was warm and moist.

He knew what my action meant and he laughed again softly.

"Yes," he said, "I admit it. That's the worst of you physiologists, you're trained detectives. Luckily you're not given to preaching."

"How much to-day?" I asked.

"About 120 drops, I think—*Tinct. Opii*: B.P.—and I mean to try 200 to-morrow. But De Quincey used to take 8,000."

"Why do you do it?" I asked. "You know the risks."

"I can stop it when I please."

"That," I said slowly, "is the risk."

"Is it?" he cried, jumping to his feet and throwing his head back. "Then I accept it! You mean that I can't stop it. Well, if I can't—what then?"

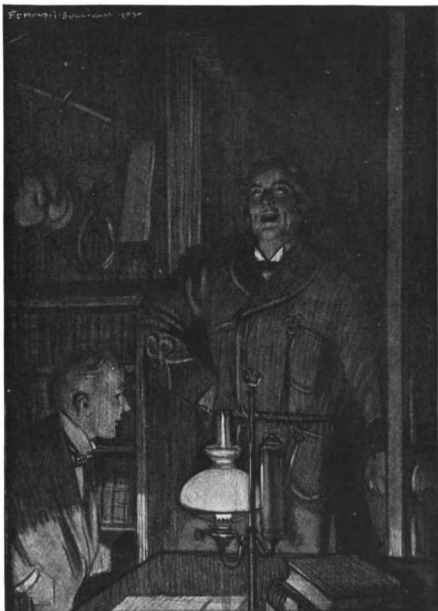
"An asylum, perhaps."

"But I have done my work first, and the stuff has helped me!" he cried with a strange violence. "Look at me and tell me what kind of man you see! A little, big-headed, mathematical tutor, ugly as a gargoyle, and pitied for his ugliness by every Somerville girl who attends his lectures. Yes, I'm that. But to-night I am as a god, knowing good and evil. And you—you, the physiologist—you who dissect emotions with a scalpel, and know of nothing in man that your knife cannot cut—you would put the god into a lunatic asylum!"

He broke off suddenly, seemed to pull himself up sharply as a man puts the curb on a runaway, and then went on quietly again with a half-apologetic gesture—

"Sorry, old man; I'm letting myself exaggerate, and that's unscientific. Un-mathematical, too, so it jars on us both. No, I'm not a god yet, because I don't know the unknowable. But here's fact—demonstrable

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"My reading-lamp picked him out in silhouette against the black panels."

"Do you see it now?" I asked.

"No. At this moment it is to me, as to you, philosophically inconceivable. A convenient phrase that, by the way. I cannot tell you what it is; I cannot even imagine it—just now. But an hour ago I could and did see it, for a moment; and I can tell you something of what it showed me. Do you believe in clairvoyance?"

"I don't know," I said. "The evidence is difficult, but I think I do."

"You think you do! Then you have an aid to understanding which I had not, for I started on my quest as a sceptic. I did not believe in the thing I set out to prove—handicap enough, that, to any investigator—and yet I have proved it. Come to my rooms and see my work."

"Shall I understand it?"

"No."

"Then let's stay here. Can't you give me some hint of what this fourth dimension is?—some analogy which will help me to imagine it? Bring the idea down to my level."

"I can't—any more than you could bring the idea of solidity down to the level of our two-dimension being. That's the difficulty. I don't for a moment suppose that I'm the first who has worked the thing out. Others have done before what I did this afternoon; but they were not believed, because they could not explain. I shall not be believed either, because I can't explain. Man, don't you see that if I could explain to the world of three dimensions what I mean by the fourth, the world of three dimensions would, by the mere act of understanding, become a world of four? I *can't* tell you what it is; and even if you were to see it yourself as I saw it, I doubt whether we should understand one another if we tried to put into words what we saw. It is all indefinite; a mere shadow of thinking, and hardly that. A shadow's shadow is all."

"And yet," I objected, "you were definite enough just now. You called yourself a god, who had pushed back the curtain of the unknowable."

"Hyperbole, of course; but I was speaking by results," he answered. "You do not know what electricity is—no one living does—but you judge it by what it does, and lay down laws for its action. You asked for an analogy just now. There I give it you. I do not know what the Fourth Dimension is; but I judge it by what it showed me. And later, when I know more of it, I too will perhaps turn theist and lay down my little parcel of laws. Meanwhile listen!

"For a certain space of time this afternoon—a moment or an hour, I do not know—I transcended the limits of human sense. Space was annihilated, and all time was the present. The material barriers of sense did not exist for me. No walls hid the faces of my friends from me. Yesterday was to-day, the past was now, and my whole life focused itself upon a moment. And yet the details were all sharp and clear; it was no blurred and confused image, but a precise actuality. Every place my memory held a picture of, every person I had ever known, every word I had spoken, every thought of my forty-three years of life—all these were before me, simultaneously, and yet separately; comprehensively, yet definitely; as one harmonious picture, and as a thousand separate scenes. It was grand. It was a revelation of the infinitely great and of the infinitely little, and of infinite harmony in both great and little. And it was very terrible. I saw myself as a child of four, playing with a spade in a sand-hole; and I saw myself sitting at my desk to-day, with a pen in my hand and a paper of formulae before me. I saw you—Ah!" he broke off, "you asked for proofs! but will you believe them?"

"If I can understand them," I said.

"Oh, the old proviso!" he answered impatiently. "The old, hackneyed, unnecessary cry for understanding! Why should you understand? Is a man to believe nothing, then, that he does not understand?"

"Yes," I said. "Many things. But belief comes easier when—"

"When understanding—poor, finite, three-dimension human understanding—backs it!" he finished for me. "Well, you will understand this. I saw you at your work in the Museum this afternoon. You were dissecting, and your subject—stop me if I am wrong—was a body very much emaciated, hardly more than a skeleton. The ribs stuck out through the stretched skin like basket-work, and all the organs were terribly wasted. The state of the lungs—you were dissecting the lungs—told you that death had been due to acute pleurisy. Am I right?"

"Absolutely, so far. There were extensive adhesions on both sides."

"Yes, I saw that; and I saw that you found the dissection difficult because of those adhesions. Your subject was a somewhat unusual one to find in an English dissecting-room—darker in the skin than an Englishman usually is, and more hairy—in fact, not an Englishman at all. Again am I right?"

"Certainly not an Englishman," I said; "but——"

"Wait!" he interrupted. "Let me tell the thing in my own way. I want to convince you. He wasn't an Englishman, but a native of sunnier climes, and the rigour of our English winter had been too much for him. Well, that often happens; so we will leave him and talk of something else. Did I ever tell you that I was once in the Diplomatic Service?"

The *non sequitur* was violent. Merrick's eyes had grown dull, and the whites were bloodshot. His excitement had vanished. I judged that the opium was running its course.

"No," I said, "I did not know it. But about this dissection subject of mine—I don't think——"

"Oh, never mind him! He can wait! He's dead, poor devil! so he won't grow impatient. Besides, I'm coming back to him later. I want to talk about a girl now. No, it's all right, old man; don't be alarmed; I'm not wandering. You'll see presently how the girl fits in to everything I've been telling you. But don't interrupt. I *must* tell the story in my own way. I've got a curious sensation just now, as though the working part of my brain had taken the reins into its own hands and were following a line of thought of its own, without any particular need of guidance from me. I see where the line is leading, and it's all right; but if you drive me off the track, I don't think I could get back to-night. And I want to tell you the thing to-night."

"She was a governess—nothing more than that. I believe you might even have called her a nursery governess without being insulting, for her charge was a kid of seven, the daughter of one of the Embassy secretaries. But, bless you! she was only seventeen herself, and she had what people call 'a way with her'; so the whole Paris Embassy just conspired to make a pet of her, and gave her about as good a time as any girl need want to have. It wasn't the conventional, down-trodden, self-effacing *rôle* that Molly Wisdom was called upon to play. Quaint name, isn't it? But the Little Wisdom, as we called her, wasn't very wise, after all. She was too childish, too pretty, and too lavishly spoiled and worshipped to give her a chance of being wise. We English *attachés*—I was the most junior of 'em—were all her slaves to a man; but of the lot of us, I believed I was the favourite. She treated us all pretty much like a squad of good-natured elder

brothers, and used freely her privilege of ordering us about. But in spite of this, I wasn't jealous of the other fellows—not particularly, that is. I was an ugly little wretch, you know, even in those days; but my ugliness was luckily pronounced enough to win me a certain distinction, while the others were just average, decent-looking young Englishmen, neither particularly plain nor particularly handsome, merely ordinary. That being so, I thought, and I think still, that in the matter of looks the advantage lay with me.

"But though my ugliness put me easily ahead of these fellows who were merely ordinary, it wasn't a strong enough weapon to fight against a beauty that was as extraordinary as my ugliness. Beauty isn't a term that one naturally applies to a man; but Manoel D'Albuquerque was beautiful. And of him I was jealous, hysterically, insanely jealous. He was a Brazilian Portuguese, absurdly rich, and maddeningly gentle-tempered. He would let no one ruffle him, though my fingers itched to spring on him and score his cheeks with my nails, like any harriidan in a slum brawl. He roused all the devil there was in me, but he wouldn't quarrel.

"Molly was fascinated by him. I asked her to be my wife, and she refused me; and I knew it was because of him. If you know anything of Brazilians, you can picture faintly the sort of beauty that the brute had, black and bright, very brilliant, and devilish. Lots of them have got it, but this one was the most brilliant of them all. He was not a cad, either—perfectly straight, perfectly gentlemanly, and universally popular. I tried my hardest to find out something to his discredit; but I failed. The man was a gentleman all right. And I, in my efforts to give him a fall, did things which hardly left me the right to claim as much.

"I heard that he had asked Molly to marry him, and that she had said 'Yes.' I took the news with a smile, and affected to be glad that she was making such a brilliant match. I chatted for a while with the woman who told me, and then I went to my bedroom; and I think that, for one night, I went mad. If a Bedlamite jealousy and a mind that riots in schemes of murder constitute madness, then I was mad. But I did not make a scene. I fled. I would have killed him, and laughed as I did it, if I could have struck him without striking Molly too. But since she loved him, that was impossible.

"I did not try to see her again. I wrote a brief note to the Ambassador, resigning my appointment, and then, as I tell you, fled. I didn't stop to think. If I had done that, I should have killed D'Albuquerque. I boarded the Sud-Express and found myself in Madrid before I had decided what I meant to do. I stayed there a day, roaming the streets like a man demented, and then in the afternoon I found myself watching a bullfight. How I got there, I do not know, nor why I went; but I think it was the sight of a horse's blood spouting on to the sand, and the poor gored brute's dying agonies, that first brought me to my senses and revealed to me that my thoughts were bloody, too. In the midst of that shouting Spanish mob, with my eyes following the incidents of the mixture of graceful play and callous cruelty which is a Spanish bullfight, I sat and thought out what I must do.

"I very nearly went back to Paris; for my maniac jealousy was still prompting me to murder. I saw a *matador* go down as his horse fell, and the bull gored him. The noisy crowd was hushed for a moment. Dead, or only hurt? They carried him out, and a minute later the ring was applauding a smart piece of dart work by a *banderillero*. There were parables in this for me. What a simple thing seemed the death of a man, and how little the world regarded it, since it could not still the laughter of this holiday crowd for more than a moment! The *matador*, I heard someone near me say, was the famous Brazilian *espada*, Gonsalvez Quelho. A Brazilian, was he? And dead? There were omens and oracles in this, too. I nearly went back even then.

"But I was growing calmer now and saner. I did not go back to Paris. I went on to Gib, thence to Morocco, and the peace of the desert healed me. In a month I was my own man again—still madly in love with Molly, and still jealous of the man who had won her. But my jealousy was no longer extravagant and murderous. It had lost its froth, but its bite was, I think, all the keener on that account. Fortunately the wrecking of my career did not matter much. I have money, and it was just as well spent in world-loafing for my own good as it would have been in wearing a frock-coat and a white waistcoat for my country's. So for two years I loafed, and then I came back to Oxford. My college gave me a Fellowship, for in my day I had been one of their brilliant men. That's a good while ago now, though, and lately I've had the notion borne

in upon me that I'm not so popular with them as I was. They are—shall we say?—disappointed in me. Well, youthful brilliancy isn't a good wearing stuff at the best."

Merrick stopped speaking and sat with his chin in his hands, watching the frosty blue in the fire. His voice in the latter part of his tale had grown dull and weary, and I saw that he had difficulty in keeping his eyes from closing. Now that his excitement was dead, he looked tired and ill. I waited a moment for him to speak again and then I touched his arm.

"How long is it since you slept?" I asked.

"I don't know," he answered drowsily. "About two days, I suppose. I've been working."

"And taking opium?" I asked.

"Only this afternoon. It helped me to finish."

"Well, go to bed now."

He stood up and yawned heavily.

"All right," he said. "But don't you want the sequel?"

"Do you know it?"

"Yes," he said, with another yawn. "Saw it all this afternoon. It's rather a queer end, you know, because——" He yawned again. "I say, old man, I'm awfully sleepy. Come to my rooms with me."

I put my arm round him, for he was swaying with sleep.

"Well?" I said, as I helped him down the stairs. "The sequel?"

"Eh? The sequel?" he answered, speaking in drowsy jerks. "I don't know. Queer! I knew five minutes ago. It's—no, I've forgotten."

His head fell forward and all his weight came upon me. The drug, kept at bay hitherto by an unnatural excitement, would be denied no longer. He was fast asleep, and I had to carry him across the two quads to his rooms.

During the next two days I saw nothing of him. I went to his rooms three times, but twice out of the three he was not there, and the other time his scout told me that he was sleeping heavily and had been in bed all the morning. On the last night of the Vac. I went again and found him at his desk, writing busily. He looked up at my entrance, jerked his head in the direction of an armchair, and went on writing. I sat down and waited for him. For ten minutes or so he continued; then with a scrawl and a flourish he finished and threw down his pen.



"'I have seen her in the flesh, here, in Oxford, day before yesterday.'"

"There," he said, "that's done, so far as I am concerned. But I think I must get you to write a postscript."

"What is it?" I asked.

"A biography. How's the dissecting getting on?"

"Finished," I said. "The rooms will be cleared to-morrow to make room for the term's work."

"Ah! So you've finished, too. Good!" he said, with a satisfaction that seemed to me rather pointless; and then turning sharply and facing me, he added: "What becomes of the bodies when you've done with them?"

"The human subjects are buried. I don't know about the others."

"Christian burial?"

"Yes, I believe so. Why?"

"Oh, nothing. I think it ought to be, that's all. Have a drink?"

"No, thank you. I'm going to read presently. I only came to see how you were."

"You are anxious about me?"

"I think you take too much opium."

With a laugh he stood up and came opposite to me, bringing his face close to mine and holding his hand out for me to grasp.

"See for yourself," he said. "Skin dry, pupils reasonably dilated. You can read the signs?"

I took the hand he offered and looked closely into his eyes. He met my scrutiny steadily, and his pulse beat firm under my fingers.

"You have not taken any to-day," I said. "I am glad."

"Nor yesterday; nor shall I to-morrow," he told me. "I have given it up absolutely, because I have got something new to live for—something that will not allow of my taking the risks that the drug holds. Will you guess what that something is?"

"Your discovery?"

"Oh, yes, that! But something better than that, too. I have seen her, you know."

I nodded. "Yes," I answered; "I supposed you had. In fact, you told me you had. *'Every face I had ever known—every thought of my forty-three years of life.'* Those were your words. Molly Wisdom's face would naturally be in the picture."

"Oh! then?" he cried. "Yes, of course, I saw her then! But I don't mean that. I mean that I have seen her in the flesh, here, in Oxford, day before yesterday; to be precise, in Blackwell's shop in the Broad,

at 10.15 a.m. She was buying copybooks. You see what that means?"

"Children," I suggested. "Then the Brazilian——"

"Yes, children, of course," he interrupted.

"But not her own. She is a nursery governess still, and she's still Molly Wisdom. So, you see"—he gave me a queer look—"it is worth my while to do without the opium."

"Did you speak to her?"

"Yes. We talked for an hour, and she told me of her life. It is fifteen years since I saw her, remember. But each thing she told me I knew before she told it. I had seen it all three days ago; but I let her tell on, for it was pleasant to hear her voice again. When I came to your rooms the other night, I knew that she had not married the Brazilian, and that I was going to see her again soon. I meant to tell you that, if I had not grown so sleepy. It was a tragic blunder that I made in Paris fifteen years ago; for she did not accept him, as I had been told, and as, in my senseless jealousy, I believed. She refused him; and if I had stayed, perhaps I might have won her, after all. I'm going to try now, if it isn't too late. Man, can you realise the tragedy of those fifteen years? For me—wasted; and for her—— Poor little Molly! a nursery governess still!"

He began to pace the room. His lip was trembling, and his fingers were twitching with emotion, as they had twitched once before when he proclaimed to me that he was a god; but this was the generous emotion that does a man's nerves good and keeps his heart young, not the fantastic enthusiasm of that scene of three nights ago.

"How goes the discovery?" I asked him. "Have you learned anything more about it?"

"No," he said, "I have not. And, what's worse, I can't. I tried to-day, repeating the method that was successful before, but I got no result. However, I don't despair. I may have made some error in my calculations to-day that I avoided the other time; something very small it may have been—must have been, in fact—because I went through all the work twice and I couldn't find it. Or there may have been something in my own state of mind or health—in default of a better term, shall we say some psychic condition?—which was present three days ago and absent to-day. I am working very much in the dark as yet, you understand;

but I shall go on trying. I have succeeded once, so I shall succeed again. And it's worth a bit of hard work."

"What would you say if I told you where the error was?" I asked.

"Say? I'd bless you. But you can't. You don't understand my work."

"Granted. But I can put my finger on your error. It is merely this—you left out the unknown quantity."

He gave me a quick look. "Perhaps," he said. "But that's what I intended to convey by the term 'psychic condition.' It's quite an unknown quantity as yet. We will call it the personal equation, if you like the term better."

"Suppose we call it opium?" I said.

He did not answer for a moment; but I saw by his quick frown, and the absence of any surprise, that I had not suggested a new idea to him.

"Is that what you really think?" he asked at length, as he reached for the pile of manuscript which he had called a biography.

"Yes," I said.

For in spite of what he had told me about knowing Molly's words before they were spoken, and in spite of coincidences that were curious, I believed now that his vision of the Fourth Dimension was nothing but an opium dream.

"Then," he said, as he threw the closely written sheets on to my knees, "how do you explain this?"

"What is it?"

"A narrative of the life of Manoel D'Albuquerque, from a date fifteen years ago to nearly the present time. It is written by me, and yet I give you my word that from that day in Paris till now I have had no news of him. I have never spoken his name to anyone till I told it to you the other night, and I have never heard it spoken. Even Molly did not mention him yesterday."

"Then," I said, "this narrative is purely imaginary."

"It is fact."

"Ah! if you could prove that!"

"Why not? A man does not walk through life without leaving tracks. We can hunt up those tracks, if necessary. But it won't be necessary, because you can furnish the proof."

"I?" I asked in astonishment. "How?"

"Read what I have written, and see. I have left the last half-page blank for you to fill in what you like. I told you I should want you to write a tailpiece for me. No, don't read it here. It's long, and I want to

do some more work before I go to bed. Take it to your rooms. I will come for it in the morning. Good-night, and try, if you can, not to be so confoundedly sceptical. You physiologists are all tarred with the brush of unbelief; and, if you will take an older man's word for it, it's a brush that leaves a nasty smudge. Good-night."

He opened the door and waited for me to go. He was out of temper, and I fancied that it was my suggestion about the unknown quantity that had annoyed him. I should have liked to stay, but he was a Don and I was an undergraduate, so I had to accept my dismissal.

His manuscript kept me awake half the night. I read it and re-read it, and marvelled at its power. It realised more completely than anything I had ever read the Aristotelian definition of tragedy—pity and terror; but the terror, the horror, rather—came first, and the pity only towards the end. It told of the gradual moral degeneration of a brilliant man, and then of his material ruin. Step by step his career was traced, each step a little lower than the one before. But there was nothing artificial in the tale, nothing forced, no development that did not arise naturally from all that had preceded it; the man seemed to be driven steadily downwards by a Nemesis that he could not fight. Each step in the descent was forced upon him irresistibly, inevitably; and yet - and in this was the greatest horror—one knew that it was all his own fault. A Nemesis pursued him, indeed; but it was the Nemesis of his own actions. He was loaded with a chain of his own forging.

If it was fact, it was terrible. If it was fiction, it was hardly less terrible. For it was plain to see how Merrick had hated the man.

His fall was described with a skill that amounted to genius; but for the first three-quarters of the tale it was an uncanny genius, cold and cruel in its vindictiveness. Towards the end, the writer's mood seemed to have changed; the pity of what he wrote seemed to take hold of him and to make him forget his hate. The last scene but one, a scene in a county lunatic asylum, was written with a compelling simplicity and with a wonderful tenderness. It was the deathbed of an unknown, unnamed pauper—the man who had once been Manoel D'Albuquerque.

Had the story ended there, I might have believed that it was true, that in some strange way Merrick had really seen the



things which he wrote. But there was one page more, a picture of the dissecting-room in which I had been working; and from this I knew that all the rest was false. Here, where Merrick expected me to prove him right, I proved him wrong. I wrote three sentences in the blank space he had left for me; and the story, horrible before, became, by the addition, merely fantastic.

Next day he came to my rooms immediately after Hall, and before I could speak, demanded my congratulations.

"We are to be married in the summer Vac.," he said, and his face was radiant with happiness.

"I am glad," I said simply, "because now I know that you will be safe. You were on a dangerous road, you know. And, by the way, I have written that postscript you wanted."

I expected him to be eager to see what I had written. Instead, he looked uncomfortable. He opened the manuscript and read my three sentences aloud.

*"You are wrong. As this is Vacation time, there are no bodies in the rooms at all. I have been dissecting a monkey."*

"Well?" I asked, as he folded the paper up and seemed disinclined to speak.

"It is very queer," he said. "I don't understand it. Molly told me this morning that the man is alive and living in Paris now with his wife and three children. And yet I felt so sure that I knew. I wonder if you are right, and if the road to the Fourth Dimension does lie only down the path of drugs. Well, I have sworn to tread that path no more. So, if you are right, I shall not see it again."

"Will that matter," I asked, "since it showed you what was false?"

"Not all false!" he exclaimed with a sudden emphasis. "No, by Heaven, not all! For it told me that I should meet Molly again and be happy. I have met her, and we shall be happy; for there are fifteen years of misery to be blotted out."

fact—I have pushed back the limit of the knowable so far to-night that I can see behind the veil, and I know how and why I see. There is another world, in and about the material world which alone you can see, which alone I could see till an hour ago. I have seen it and I have discovered the law which rules it."

He stopped and gazed into the fire. His violence was gone, and he had spoken these last sentences with as little passion as he would have shown in demonstrating a problem of the higher mathematics; but the light of a conquering enthusiasm glowed about him. He looked up into my face, waiting for me to speak.

"Others," I said, "have claimed that power before you. But they have used it to tell fortunes or to turn tables. They say they come from Thibet mostly, and speak with the accent of Whitechapel."

"Quacks!" he said with a laugh. "You're a little bit cruel."

"Some of them believed honestly in the powers they professed," I answered. "The Psychological Research Society——"

"Is a jury of old women," he cut in, "and as gullible. They know some truths, and they swallow many lies. I won't lay my discovery before them!"

"What is your discovery?"

He took out a pipe, asked me for tobacco by a gesture, filled the pipe slowly, lit it carefully, and then lay back in his chair and blew clouds at his head. Then he said quietly: "The Fourth Dimension."

"Ah! An inconceivable non-existence! You called it that yourself the other night," I reminded him.

"Did I? I was in the dumps that night. I have proved now that it does exist."

I looked at the glistening forehead and the beaded pupils, and I smiled as I suggested softly: "In an opium dream."

"No," he said; "on paper. Mathematically demonstrable, if you had the knowledge to enable you to follow my proof."

"But I haven't," I said. And then, for his earnestness impressed me, I added: "Can you tell me without formulæ?"

He was an orator. I had never suspected it till now, for he had the reputation of being a bad lecturer of good lectures. Was it the opium—"eloquent opium," as De Quincey calls it. Or was it only the gift of tongues which comes to every man when his thoughts are big and his enthusiasm is new? He told me of months of work, all tending to the same goal; of calculations begun with an

eager hope and never finished, because despair foreshadowed an impotent conclusion; of the steady building up of a theory by a page, a line, a single formula, the result of many nights of toil; and then of the little error which shattered the whole fabric and sent him back to the starting-place; of doubts whether the problem were soluble at all; of certainty that he, and he alone, would find the solution. And lastly, of success.

I have watched a girl's face when she told that the man she loved had asked her to be his wife; and I have watched Merrick's, when he spoke, and spoke quietly, of the moment when he knew that he had succeeded. The look in both was the same, and yet the girl was beautiful.

Stripped of its technicalities, his argument was not difficult to follow. "Common belief," he said, "recognises three dimensions only—two horizontal and one vertical—and calls them length, breadth, and height; and the world of phenomena is contained in those three. And common belief is in this case supported by science, which declares that anything beyond this is philosophically inconceivable. But it is only an arbitrary boundary, after all, a terminus imposed by the limitations of our merely human senses. Suppose, for the sake of argument, a being so constituted that he was able to appreciate only two of the dimensions which make up our world, say length and breadth. To such a being everything would be flat, the surface of a carpet seen from the floor-level, a map to be studied by an eye in the paper on which it was drawn; height and thickness would be notions which he could not grasp; solidity would, to him, be non-existent. You, with your three-dimension senses, know that there is such a thing as solidity, but my two-dimension being would not understand you when you spoke of it. He would tell you that the third dimension, by which you endeavoured to explain the thing which he could not imagine, was philosophically inconceivable. And, of course, he would be right."

Merrick paused, smoked for a while in silence, and then went on.

"He would be right, absolutely right, within his limitations; to him a third dimension would be philosophically inconceivable. And you, when you say that there are three dimensions and only three, are right, within your limitations; to you a fourth dimension is philosophically inconceivable. And I, when I say that there is a fourth dimension, am right, too; for I have seen it."