The Diamond Lens

Fitz−James O'Brien

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Chapter 1: THE BENDING OF THE TWIG.

From a very early period of my life the entire bent of my inclinations had been towards microscopic investigations. When I was not more than ten years old, a distant relative of our family, hoping to astonish my inexperience, constructed a simple microscope for me, by drilling in a disk of copper a small hole, in which a drop of pure water was sustained by capillary attraction. This very primitive apparatus, magnifying some fifty diameters, presented, it is true, only indistinct and imperfect forms, but still sufficiently wonderful to work up my imagination to a preternatural state of excitement.

Seeing me so interested in this rude instrument, my cousin explained to me all that he knew about the principles of the microscope, related to me a few of the wonders which had been accomplished through its agency, and ended by promising to send me one regularly constructed, immediately on his return to the city. I counted the days, the hours, the minutes, that intervened between that promise and his departure.

Meantime I was not idle. Every transparent substance that bore the remotest semblance to a lens I eagerly seized upon and employed in vain attempts to realize that instrument, the theory of whose construction I as yet only vaguely comprehended. All panes of glass containing those oblate spheroidal knots familiarly known as "bull's eyes" were ruthlessly destroyed, in the hope of obtaining lenses of marvellous power. I even went so far as to extract the crystalline humor from the eyes of fishes and animals, and endeavored to press it into the microscopic service. I plead guilty to having stolen the glasses from my Aunt Agatha's spectacles, with a dim idea of grinding them into lenses of wondrous magnifying properties −− in which attempt it is scarcely necessary to say that I totally failed.

At last the promised instrument came. It was of that order known as Field's simple microscope, and had cost perhaps about fifteen dollars. As far as educational purposes went, a better apparatus could not have been selected. Accompanying it was a small treatise on the microscope, −− its history, uses, and discoveries. I comprehended then for the first time the "Arabian Nights' Entertainments." The dull veil of ordinary existence that hung across the world seemed suddenly to roll away, and to lay bare a land of enchantments. I felt towards my companions as the seer might feel towards the ordinary masses of men. I held conversations with Nature in a tongue which they could not understand. I was in daily communication with living wonders, such as they never imagined in their wildest visions. I penetrated beyond the external portal of things, and roamed through the sanctuaries. Where they beheld only a drop of rain slowly rolling down the window−glass, I saw a universe of beings animated with all the passions common to physical life, and convulsing their minute sphere with struggles as fierce and protracted as those of men. In the common spots of mould, which my mother, good housekeeper that she was, fiercely scooped away from her jam pots, there abode for me, under the name of mildew, enchanted gardens, filled with dells and avenues of the densest foliage and most astonishing verdure, while from the fantastic boughs of these microscopic forests hung strange fruits glittering with green and silver and gold.

It was no scientific thirst that at this time filled my mind. It was the pure enjoyment of a poet to whom a world of wonders has been disclosed. I talked of my solitary pleasures to none. Alone with my microscope, I dimmed my sight, day after day and night after night poring over the marvels which it unfolded to me. I was like one who, having discovered the ancient Eden still existing in all its primitive glory, should resolve to enjoy it in solitude, and never betray to mortal the secret of its locality. The rod of my life was bent at this moment. I destined myself to be a microscopist.

Of course, like every novice, I fancied myself a discoverer. I was ignorant at the time of the thousands of acute intellects engaged in the same pursuit as myself, and with the advantages of instruments a thousand times more powerful than mine. The names of Leeuwenhoek, Williamson, Spencer, Ehrenberg, Schultz, Dujardin, Schact, and Schleiden were then entirely unknown to me, or if known, I was ignorant of their patient and wonderful researches. In every fresh specimen of Cryptogamia which I placed beneath my instrument I believed that I discovered wonders of which the world was as yet ignorant. I remember well the thrill of delight and admiration that shot through me the first time that I discovered the common wheel animalcule (Rotifera vulgaris) expanding and contracting its flexible spokes, and seemingly rotating through the water. Alas! as I grew older, and obtained some works treating of my favorite study, I found that I was only on the threshold of a science to the investigation of which some of the greatest men of the age were devoting their lives and intellects.

As I grew up, my parents, who saw but little likelihood of anything practical resulting from the examination of bits of moss and drops of water through a brass tube and a piece of glass, were anxious that I should choose a profession. It was their desire that I should enter the counting−house of my uncle, Ethan Blake, a prosperous merchant, who carried on business in New York. This suggestion I decisively combated. I had no taste for trade; I should only make a failure; in short, I refused to become a merchant.

But it was necessary for me to select some pursuit. My parents were staid New England people, who insisted on the necessity of labor; and therefore, although, thanks to the bequest of my poor Aunt Agatha, I should, on coming of age, inherit a small fortune sufficient to place me above want, it was decided, that, instead of waiting for this, I should act the nobler part, and employ the intervening years in rendering myself independent.

After much cogitation I complied with the wishes of my family, and selected a profession. I determined to study medicine at the New York Academy. This disposition of my future suited me. A removal from my relatives would enable me to dispose of my time as I pleased, without fear of detection. As long as I paid my Academy fees, I might shirk attending the lectures, if I chose; and as I never had the remotest intention of standing an examination, there was no danger of my being "plucked." Besides, a metropolis was the place for me. There I could obtain excellent instruments, the newest publications, intimacy with men of pursuits kindred to my own, −− in short, all things necessary to insure a profitable devotion of my life to my beloved science. I had an abundance of money, few desires that were not bounded by my illuminating mirror on one side and my object−glass on the other; what, therefore, was to prevent my becoming an illustrious investigator of the veiled worlds? It was with the most buoyant hopes that I left my New England home and established myself in New York.

Chapter 2: THE LONGING OF A MAN OF SCIENCE.

My first step, of course, was to find suitable apartments. These I obtained, after a couple of days' search, in Fourth Avenue; a very pretty second−floor unfurnished, containing sitting−room, bedroom, and a smaller apartment which I intended to fit up as a laboratory. I furnished my lodgings simply, but rather elegantly, and then devoted all my energies to the adornment of the temple of my worship. I visited Pike, the celebrated optician, and passed in review his splendid collection of microscopes, −− Field's Compound, Higham's, Spencer's, Nachet's Binocular, (that founded on the principles of the stereoscope,) and at length fixed upon that form known as Spencer's Trunnion Microscope, as combining the greatest number of improvements with an almost perfect freedom from tremor. Along with this I purchased every possible accessory, −− draw−tubes, micrometers, a camera−lucida, lever−stage, achromatic condensers, white cloud illuminators, prisms, parabolic condensers, polarizing apparatus, forceps, aquatic boxes, fishing−tubes, with a host of other articles, all of which would have been useful in the hands of an experienced microscopist, but, as I afterwards discovered, were not of the slightest present value to me. It takes years of practice to know how to use a complicated microscope. The optician looked suspiciously at me as I made these wholesale purchases. He evidently was uncertain whether to set me down as some scientific celebrity or a madman. I think he inclined to the latter belief. I suppose I was mad. Every great genius is mad upon the subject in which he is greatest. The unsuccessful madman is disgraced, and called a lunatic.

Mad or not, I set myself to work with a zeal which few scientific students have ever equalled. I had everything to learn relative to the delicate study upon which I had embarked, −− a study involving the most earnest patience, the most rigid analytic powers, the steadiest hand, the most untiring eye, the most refined and subtile manipulation.

For a long time half my apparatus lay inactively on the shelves of my laboratory, which was now most amply furnished with every possible contrivance for facilitating my investigations. The fact was that I did not know how to use some of my scientific accessories, −− never having been taught microscopics, −− and those whose use I understood theoretically were of little avail, until by practice I could attain the necessary delicacy of handling. Still, such was the fury of my ambition, such the untiring perseverance of my experiments, that, difficult of credit as it may be, in the course of one year I became theoretically and practically an accomplished microscopist.

During this period of my labors, in which I submitted specimens of every substance that came under my observation to the action of my lenses, I became a discoverer, −− in a small way, it is true, for I was very young, but still a discoverer. It was I who destroyed Ehrenberg's theory that the Volcox globator was an animal, and proved that his "monads" with stomachs and eyes were merely phases of the formation of a vegetable cell, and were, when they reached their mature state, incapable of the act of conjugation, or any true generative act, without which no organism rising to any stage of life higher than vegetable can be said to be complete. It was I who resolved the singular problem of rotation in the cells and hairs of plants into ciliary attraction, in spite of the assertions of Mr. Wenham and others, that my explanation was the result of an optical illusion.

But notwithstanding these discoveries, laboriously and painfully made as they were, I felt horribly dissatisfied. At every step I found myself stopped by the imperfections of my instruments. Like all active microscopists, I gave my imagination full play. Indeed, it is a common complaint against many such, that they supply the defects of their instruments with the creations of their brains. I imagined depths beyond depths in Nature which the limited power of my lenses prohibited me from exploring. I lay awake at night constructing imaginary microscopes of immeasurable power, with which I seemed to pierce through all the envelopes of matter down to its original atom. How I cursed those imperfect mediums which necessity through ignorance compelled me to use! How I longed to discover the secret of some perfect lens whose magnifying power should be limited only byf their instruments with the creations of their brains. I imagined depths beyond depths in Nature which the limited power of my lenses prohibited me from exploring. I lay awake at night constructing imaginary microscopes of immeasurable power, with which I seemed to pierce through all the envelopes of matter down to its original atom. How I cursed those imperfect mediums which necessity through ignorance compelled me to use! How I longed to discover the secret of some perfect lens whose magnifying power should be limited only by the resolvability of the object, and which at the same time should be free from spherical and chromatic aberrations, in short from all the obstacles over which the poor microscopist finds himself continually stumbling! I felt convinced that the simple microscope, composed of a single lens of such vast yet perfect power, was possible of construction. To attempt to bring the compound microscope up to such a pitch would have been commencing at the wrong end; this latter being simply a partially successful endeavor to remedy those very defects of the simple instrument, which, if conquered, would leave nothing to be desired.

It was in this mood of mind that I became a constructive microscopist. After another year passed in this new pursuit, experimenting on every imaginable substance, −− glass, gems, flints, crystals, artificial crystals formed of the alloy of various vitreous materials, −− in short, having constructed as many varieties of lenses as Argus had eyes, I found myself precisely where I started, with nothing gained save an extensive knowledge of glass−making. I was almost dead with despair. My parents were surprised at my apparent want of progress in my medical studies, (I had not attended one lecture since my arrival in the city,) and the expenses of my mad pursuit had been so great as to embarrass me very seriously.

I was in this frame of mind one day, experimenting in my laboratory on a small diamond, −− that stone, from its great refracting power, having always occupied my attention more than any other, −− when a young Frenchman, who lived on the floor above me, and who was in the habit of occasionally visiting me, entered the room.

I think that Jules Simon was a Jew. He had many traits of the Hebrew character: a love of jewelry, of dress,

and of good living. There was something mysterious about him. He always had something to sell, and yet went into excellent society. When I say sell, I should perhaps have said peddle; for his operations were generally confined to the disposal of single articles, −− a picture, for instance, or a rare carving in ivory, or a pair of duelling−pistols, or the dress of a Mexican caballero. When I was first furnishing my rooms, he paid me a visit, which ended in my purchasing an antique silver lamp, which he assured me was a Cellini, −− it was handsome enough even for that, −− and some other knick−knacks for my sitting−room. Why Simon should pursue this petty trade I never could imagine. He apparently had plenty of money, and had the entree of the best houses in the city, −− taking care, however, I suppose, to drive no bargains within the enchanted circle of the Upper Ten. I came at length to the conclusion that this peddling was but a mask to cover some greater object, and even went so far as to believe my young acquaintance to be implicated in the slave−trade. That, however, was none of my affair.

On the present occasion, Simon entered my room in a state of considerable excitement.

"Ah! mon ami!" he cried, before I could even offer him the ordinary salutation, "it has occurred to me to be the witness of the most astonishing things in the world. I promenade myself to the house of Madame −− How does the little animal −− le renard −− name himself in the Latin?"

"Vulpes," I answered.

"Ah! yes, −− Vulpes. I promenade myself to the house of Madame Vulpes."

"The spirit medium?"

"Yes, the great medium. Great Heavens! what a woman! I write on a slip of paper many of questions concerning affairs the most secret, −− affairs that conceal themselves in the abysses of my heart the most profound; and behold! by example! what occurs? This devil of a woman makes me replies the most truthful to all of them. She talks to me of things that I do not love to talk of to myself. What am I to think? I am fixed to the earth!"

"Am I to understand you, M. Simon, that this Mrs. Vulpes replied to questions secretly written by you, which questions related to events known only to yourself?"

"Ah! more than that, more than that," he answered, with an air of some alarm. "She related to me things −− But," he added, after a pause, and suddenly changing his manner, "why occupy ourselves with these follies? It was all the Biology, without doubt. It goes without saying that it has not my credence. −− But why are we here, mon ami? It has occurred to me to discover the most beautiful thing as you can imagine, −− a vase with green lizards on it, composed by the great Bernard Palissy. It is in my apartment; let us mount. I go to show it to you."

I followed Simon mechanically; but my thoughts were far from Palissy and his enamelled ware, although I, like him, was seeking in the dark after a great discovery. This casual mention of the spiritualist, Madame Vulpes, set me on a new track. What if this spiritualism should be really a great fact? What if, through communication with subtiler organisms than my own, I could reach at a single bound the goal, which perhaps a life of agonizing mental toil would never enable me to attain?

While purchasing the Palissy vase from my friend Simon, I was mentally arranging a visit to Madame Vulpes.

Chapter 3: THE SPIRIT OF LEEUWENHOEK.

TWO evenings after this, thanks to an arrangement by letter and the promise of an ample fee, I found Madame Vulpes awaiting me at her residence alone. She was a coarse−featured woman, with a keen and rather cruel dark eye, and an exceedingly sensual expression about her mouth and under jaw. She received me in perfect silence, in an apartment on the ground floor, very sparsely furnished. In the centre of the room, close to where Mrs. Vulpes sat, there was a common round mahogany table. If I had come for the purpose of sweeping her chimney, the woman could not have looked more indifferent to my appearance. There was no attempt to inspire the visitor with any awe. Everything bore a simple and practical aspect. This intercourse with the spiritual world was evidently as familiar an occupation with Mrs. Vulpes as eating her dinner or riding in an omnibus.

"You come for a communication, Mr. Linley?" said the medium, in a dry, business−like tone of voice.

"By appointment, −− yes."

"What sort of communication do you want? −− a written one?"

"Yes, −− I wish for a written one."

"From any particular spirit?"

"Yes."

"Have you ever known this spirit on this earth?"

"Never. He died long before I was born. I wish merely to obtain from him some information which he ought to be able to give better than any other."

"Will you seat yourself at the table, Mr. Linley," said the medium, "and place your hands upon it?"

I obeyed, −− Mrs. Vulpes being seated opposite me, with her hands also on the table. We remained thus for about a minute and a half, when a violent succession of raps came on the table, on the back of my chair, on the floor immediately under my feet, and even on the window−panes. Mrs. Vulpes smiled composedly.

"They are very strong to−night," she remarked. "You are fortunate." She then continued, "Will the spirits communicate with this gentleman?"

Vigorous affirmative.

"Will the particular spirit he desires to speak with communicate?"

A very confused rapping followed this question.

"I know what they mean," said Mrs. Vulpes, addressing herself to me; "they wish you to write down the name of the particular spirit that you desire to converse with. Is that so?" she added, speaking to her invisible guests.

That it was so was evident from the numerous affirmatory responses. While this was going on, I tore a slip from my pocket−book, and scribbled a name under the table.

"Will this spirit communicate in writing with this gentleman?" asked the medium once more.

After a moment's pause her hand seemed to be seized with a violent tremor, shaking so forcibly that the table vibrated. She said that a spirit had seized her hand and would write. I handed her some sheets of paper that were on the table, and a pencil. The latter she held loosely in her hand, which presently began to move over the paper with a singular and seemingly involuntary motion. After a few moments had elapsed she handed me the paper, on which I found written, in a large, uncultivated hand, the words, "He is not here, but has been sent for." A pause of a minute or so now ensued, during which Mrs. Vulpes remained perfectly silent, but the raps continued at regular intervals. When the short period I mention had elapsed, the hand of the medium was again seized with its convulsive tremor, and she wrote, under this strange influence, a few words on the paper, which she handed to me. They were as follows: −−

"I am here. Question me.

"LEEUWENHOEK."

I was astounded. The name was identical with that I had written beneath the table, and carefully kept concealed. Neither was it at all probable that an uncultivated woman like Mrs. Vulpes should know even the name of the great father of microscopics. It may have been Biology; but this theory was soon doomed to be destroyed. I wrote on my slip −− still concealing it from Mrs. Vulpes −− a series of questions, which, to avoid tediousness, I shall place with the responses in the order in which they occurred.

I. −− Can the microscope be brought to perfection?

SPIRIT. −− Yes.

I. −− Am I destined to accomplish this great task?

SPIRIT. −− You are.

I. −− I wish to know how to proceed to attain this end. For the love which you bear to science, help me!

SPIRIT. −− A diamond of one hundred and forty carats, submitted to electromagnetic currents for a long period, will experience a rearrangement of its atoms inter se, and from that stone you will form the universal lens.

I. −− Will great discoveries result from the use of such a lens?

SPIRIT. −− So great, that all that has gone before is as nothing.

I. −− But the refractive power of the diamond is so immense, that the image will be formed within the lens. How is that difficulty to be surmounted?

SPIRIT. −− Pierce the lens through its axis, and the difficulty is obviated. The image will be formed in the pierced space, which will itself serve as a tube to look through. Now I am called. Good night!

I cannot at all describe the effect that these extraordinary communications had upon me. I felt completely bewildered. No biological theory could account for the discovery of the lens. The medium might, by means of biological rapport with my mind, have gone so far as to read my questions, and reply to them coherently. But Biology could not enable her to discover that magnetic currents would so alter the crystals of the diamond as to remedy its previous defects, and admit of its being polished into a perfect lens. Some such theory may have passed through my head, it is true; but if so, I had forgotten it. In my excited condition of mind there was no

course left but to become a convert, and it was in a state of the most painful nervous exaltation that I left the medium's house that evening. She accompanied me to the door, hoping that I was satisfied. The raps followed us as we went through the hall, sounding on the balusters, the flooring, and even the lintels of the door. I hastily expressed my satisfaction, and escaped hurriedly into the cool night air. I walked home with but one thought possessing me, −− how to obtain a diamond of the immense size required. My entire means multiplied a hundred times over would have been inadequate to its purchase. Besides, such stones are rare, and become historical. I could find such only in the regalia of Eastern or European monarchs.

Chapter 4: THE EYE OF MORNING.

There was a light in Simon's room as I entered my house. A vague impulse urged me to visit him. As I opened the door of his sitting−room unannounced, he was bending, with his back toward me, over a carcel lamp, apparently engaged in minutely examining some object which he held in his hands. As I entered, he started suddenly, thrust his hand into his breast pocket, and turned to me with a face crimson with confusion.

"What!" I cried, "poring over the miniature of some fair lady? Well, don't blush so much; I won't ask to see it."

Simon laughed awkwardly enough, but made none of the negative protestations usual on such occasions. He asked me to take a seat.

"Simon," said I, "I have just come from Madame Vulpes."

This time Simon turned as white as a sheet, and seemed stupefied, as if a sudden electric shock had smitten him. He babbled some incoherent words, and went hastily to a small closet where he usually kept his liquors. Although astonished at his emotion, I was too preoccupied with my own idea to pay much attention to anything else.

"You say truly when you call Madame Vulpes a devil of a woman," I continued. "Simon, she told me wonderful things tonight, or rather was the means of telling me wonderful things. Ah! if I could only get a diamond that weighed one hundred and forty carats!"

Scarcely had the sigh with which I uttered this desire died upon my lips, when Simon, with the aspect of a wild beast, glared at me savagely, and rushing to the mantel−piece, where some foreign weapons hung on the wall, caught up a Malay creese, and brandished it furiously before him.

"No!" he cried in French, into which he always broke when excited. "No! you shall not have it! You are perfidious! You have consulted with that demon, and desire my treasure! But I will die first! Me! I am brave! You cannot make me fear!"

All this, uttered in a loud voice trembling with excitement, astounded me. I saw at a glance that I had accidentally trodden upon the edges of Simon's secret, whatever it was. It was necessary to reassure him.

"My dear Simon," I said, "I am entirely at a loss to know what you mean. I went to Madame Vulpes to consult with her on a scientific problem, to the solution of which I discovered that a diamond of the size I just mentioned was necessary. You were never alluded to during the evening, nor, so far as I was concerned, even thought of. What can be the meaning of this outburst? If you happen to have a set of valuable diamonds in your possession, you need fear nothing from me. The diamond which I require you could not possess; or if you did possess it, you would not be living here."

Something in my tone must have completely reassured him; for his expression immediately changed to a sort of constrained merriment, combined, however, with a certain suspicious attention to my movements. He laughed, and said that I must bear with him; that he was at certain moments subject to a species of vertigo, which betrayed itself in incoherent speeches, and that the attacks passed off as rapidly as they came. He put his weapon aside while making this explanation, and endeavored, with some success, to assume a more cheerful air.

All this did not impose on me in the least. I was too much accustomed to analytical labors to be baffled by so flimsy a veil. I determined to probe the mystery to the bottom.

"Simon," I said, gayly, "let us forget all this over a bottle of Burgundy. I have a case of Lausseure's Clos Vougeot downstairs, fragrant with the odors and ruddy with the sunlight of the Cote d'Or. Let us have up a couple of bottles. What say you?"

"With all my heart," answered Simon, smilingly.

I produced the wine and we seated ourselves to drink. It was of a famous vintage, that of 1848, a year when war and wine throve together, −− and its pure, but powerful juice seemed to impart renewed vitality to the system.

By the time we had half finished the second bottle, Simon's head, which I knew was a weak one, had begun to yield, while I remained calm as ever, only that every draught seemed to send a flush of vigor through my limbs. Simon's utterance became more and more indistinct. He took to singing French chansons of a not very moral tendency. I rose suddenly from the table just at the conclusion of one of those incoherent verses, and fixing my eyes on him with a quiet smile, said:

"Simon, I have deceived you. I learned your secret this evening. You may as well be frank with me. Mrs. Vulpes, or rather, one of her spirits, told me all."

He started with horror. His intoxication seemed for the moment to fade away, and he made a movement towards the weapon that he had a short time before laid down. I stopped him with my hand.

"Monster!" he cried, passionately, "I am ruined! What shall I do? You shall never have it! I swear by my mother!"

"I don't want it," I said; "rest secure, but be frank with me. Tell me all about it."

The drunkenness began to return. He protested with maudlin earnestness that I was entirely mistaken, −− that I was intoxicated; then asked me to swear eternal secrecy, and promised to disclose the mystery to me. I pledged myself, of course, to all. With an uneasy look in his eyes, and hands unsteady with drink and nervousness, he drew a small case from his breast and opened it. Heavens! How the mild lamp−light was shivered into a thousand prismatic arrows, as it fell upon a vast rose−diamond that glittered in the case! I was no judge of diamonds, but I saw at a glance that this was a gem of rare size and purity. I looked at Simon with wonder, and −− must I confess it? −− with envy. How could he have obtained this treasure? In reply to my questions, I could just gather from his drunken statements (of which, I fancy, half the incoherence was affected) that he had been superintending a gang of slaves engaged in diamond−washing in Brazil; that he had seen one of them secrete a diamond, but, instead of informing his employers, had quietly watched the negro until he saw him bury his treasure; that he had dug it up, and fled with it, but that as yet he was afraid to attempt to dispose of it publicly, −− so valuable a gem being almost certain to attract too much attention to its owner's antecedents, −− and he had not been able to discover any of those obscure channels by which such matters are conveyed away safely. He added, that, in accordance with Oriental practice, he had named his diamond by the fanciful title of "The Eye of Morning."

While Simon was relating this to me, I regarded the great diamond attentively. Never had I beheld anything so beautiful. All the glories of light, ever imagined or described, seemed to pulsate in its crystalline chambers. Its weight, as I learned from Simon, was exactly one hundred and forty carats. Here was an amazing coincidence. The hand of Destiny seemed in it. On the very evening when the spirit of Leeuwenhoek communicates to me the great secret of the microscope, the priceless means which he directs me to employ start up within my reach! I determined, with the most perfect deliberation, to possess myself of Simon's diamond.

I sat opposite him while he nodded over his glass, and calmly revolved the whole affair. I did not for an instant contemplate so foolish an act as a common theft, which would of course be discovered, or at least necessitate flight and concealment, all of which must interfere with my scientific plans. There was but one step to be taken, −− to kill Simon. After all, what was the life of a little peddling Jew, in comparison with the interests of science? Human beings are taken every day from the condemned prisons to be experimented on by surgeons. This man, Simon, was by his own confession a criminal, a robber, and I believed on my soul a murderer. He deserved death quite as much as any felon condemned by the laws; why should I not, like government, contrive that his punishment should contribute to the progress of human knowledge?

The means for accomplishing everything I desired lay within my reach. There stood upon the mantel−piece a bottle half full of French laudanum. Simon was so occupied with his diamond, which I had just restored to him, that it was an affair of no difficulty to drug his glass. In a quarter of an hour he was in a profound sleep.

I now opened his waistcoat, took the diamond from the inner pocket in which he had placed it, and removed him to the bed, on which I laid him so that his feet hung down over the edge. I had possessed myself of the Malay creese, which I held in my right hand, while with the other I discovered as accurately as I could by pulsation the exact locality of the heart. It was essential that all the aspects of his death should lead to the surmise of self−murder. I calculated the exact angle at which it was probable that the weapon, if levelled by Simon's own hand, would enter his breast; then with one powerful blow I thrust it up to the hilt in the very spot which I desired to penetrate. A convulsive thrill ran through Simon's limbs. I heard a smothered sound issue from his throat, precisely like the bursting of a large air−bubble, sent up by a diver, when it reaches the surface of the water; he

turned half round on his side, and as if to assist my plans more effectually, his right hand, moved by some mere spasmodic impulse, clasped the handle of the creese, which it remained holding with extraordinary muscular tenacity. Beyond this there was no apparent struggle. The laudanum, I presume, paralyzed the usual nervous action. He must have died instantaneously.

There was yet something to be done. To make it certain that all suspicion of the act should be diverted from any inhabitant of the house to Simon himself, it was necessary that the door should be found in the morning locked on the inside. How to do this, and afterwards escape myself? Not by the window; that was a physical impossibility. Besides, I was determined that the windows also should be found bolted. The solution was simple enough. I descended softly to my own room for a peculiar instrument which I had used for holding small slippery substances, such as minute spheres of glass, etc. This instrument was nothing more than a long slender hand−vice, with a very powerful grip, and a considerable leverage, which last was accidentally owing to the shape of the handle. Nothing was simpler than, when the key was in the lock, to seize the end of its stem in this vice, through the keyhole, from the outside, and so lock the door. Previously, however, to doing this, I burned a number of papers on Simon's hearth. Suicides almost always burn papers before they destroy themselves. I also emptied some more laudanum into Simon's glass, −− having first removed from it all traces of wine, −− cleaned the other wine−glass, and brought the bottle away with me. If traces of two persons drinking had been found in the room, the question naturally would have arisen, Who was the second? Besides, the wine−bottle might have been identified as belonging to me. The laudanum I poured out to account for its presence in his stomach, in case of a post−mortem examination. The theory naturally would be, that he first intended to poison himself, but, after swallowing a little of the drug, was either disgusted with its taste, or changed his mind from other motives, and chose the dagger. These arrangements made, I walked out, leaving the gas burning, locked the door with my vice, and went to bed.

Simon's death was not discovered until nearly three in the afternoon. The servant, astonished at seeing the gas burning, −− the light streaming on the dark landing from under the door, −− peeped through the keyhole and saw Simon on the bed. She gave the alarm. The door was burst open, and the neighborhood was in a fever of excitement.

Every one in the house was arrested, myself included. There was an inquest; but no clue to his death, beyond that of suicide, could be obtained. Curiously enough, he had made several speeches to his friends the preceding week, that seemed to point to self−destruction. One gentleman swore that Simon had said in his presence that"he was tired of life." His landlord affirmed, that Simon, when paying him his last month's rent, remarked that "he would not pay him rent much longer." All the other evidence corresponded, −− the door locked inside, the position of the corpse, the burnt papers. As I anticipated, no one knew of the possession of the diamond by Simon, so that no motive was suggested for his murder. The jury, after a prolonged examination, brought in the usual verdict, and the neighborhood once more settled down into its accustomed quiet.

Chapter 5: ANIMULA.

THE three months succeeding Simon's catastrophe I devoted night and day to my diamond lens. I had constructed a vast galvanic battery, composed of nearly two thousand pairs of plates, −− a higher power I dared not use, lest the diamond should be calcined. By means of this enormous engine I was enabled to send a powerful current of electricity continually through my great diamond, which it seemed to me gained in lustre every day. At the expiration of a month I commenced the grinding and polishing of the lens, a work of intense toil and exquisite delicacy. The great density of the stone, and the care required to be taken with the curvatures of the surfaces of the lens, rendered the labor the severest and most harassing that I had yet undergone.

At last the eventful moment came; the lens was completed. I stood trembling on the threshold of new worlds. I had the realization of Alexander's famous wish before me. The lens lay on the table, ready to be placed upon its platform. My hand fairly shook as I enveloped a drop of water with a thin coating of oil of turpentine, preparatory to its examination, −− a process necessary in order to prevent the rapid evaporation of the water. I now placed the drop on a thin slip of glass under the lens, and throwing upon it, by the combined aid of a prism and a mirror, a powerful stream of light, I approached my eye to the minute hole drilled through the axis of the lens. For an instant I saw nothing save what seemed to be an illuminated chaos, a vast luminous abyss. A pure white light, cloudless and serene, and seemingly limitless as space itself, was my first impression. Gently, and with the greatest care, I depressed the lens a few hairs' breadths. The wondrous illumination still continued, but as the lens

approached the object, a sense of indescribable beauty was unfolded to my view.

I seemed to gaze upon a vast space, the limits of which extended far beyond my vision. An atmosphere of magical luminousness permeated the entire field of view. I was amazed to see no trace of animalculous life. Not a living thing, apparently, inhabited that dazzling expanse. I comprehended instantly, that, by the wondrous power of my lens, I had penetrated beyond the grosser particles of aqueous matter, beyond the realms of Infusoria and Protozoa, down to the original gaseous globule, into whose luminous interior I was gazing, as into an almost boundless dome filled with a supernatural radiance.

It was, however, no brilliant void into which I looked. On every side I beheld beautiful inorganic forms, of unknown texture, and colored with the most enchanting hues. These forms presented the appearance of what might be called, for want of a more specific definition, foliated clouds of the highest rarity; that is, they undulated and broke into vegetable formations, and were tinged with splendors compared with which the gilding of our autumn woodlands is as dross compared with gold. Far away into the illimitable distance stretched long avenues of these gaseous forests, dimly transparent, and painted with prismatic hues of unimaginable brilliancy. The pendent branches waved along the fluid glades until every vista seemed to break through half−lucent ranks of many−colored drooping silken pennons. What seemed to be either fruits or flowers, pied with a thousand hues lustrous and ever varying, bubbled from the crowns of this fairy foliage. No hills, no lakes, no rivers, no forms animate or inanimate were to be seen, save those vast auroral copses that floated serenely in the luminous stillness, with leaves and fruits and flowers gleaming with unknown fires, unrealizable by mere imagination.

How strange, I thought, that this sphere should be thus condemned to solitude! I had hoped, at least, to discover some new form of animal life, −− perhaps of a lower class than any with which we are at present acquainted, −− but still, some living organism. I find my newly discovered world, if I may so speak, a beautiful chromatic desert.

While I was speculating on the singular arrangements of the internal economy of Nature, with which she so frequently splinters into atoms our most compact theories, I thought I beheld a form moving slowly through the glades of one of the prismatic forests. I looked more attentively, and found that I was not mistaken. Words cannot depict the anxiety with which I awaited the nearer approach of this mysterious object. Was it merely some inanimate substance, held in suspense in the attenuated atmosphere of the globule? or was it an animal endowed with vitality and motion? It approached, flitting behind the gauzy, colored veils of cloud−foliage, for seconds dimly revealed, then vanishing. At last the violet pennons that trailed nearest to me vibrated; they were gently pushed aside, and the Form floated out into the broad light.

It was a female human shape. When I say "human," I mean it possessed the outlines of humanity, −− but there the analogy ends. Its adorable beauty lifted it illimitable heights beyond the loveliest daughter of Adam.

I cannot, I dare not, attempt to inventory the charms of this divine revelation of perfect beauty. Those eyes of mystic violet, dewy and serene, evade my words. Her long lustrous hair following her glorious head in a golden wake, like the track sown in heaven by a falling star, seems to quench my most burning phrases with its splendors. If all the bees of Hybla nestled upon my lips, they would still sing but hoarsely the wondrous harmonies of outline that enclosed her form.

She swept out from between the rainbow−curtains of the cloud−trees into the broad sea of light that lay beyond. Her motions were those of some graceful Naiad, cleaving, by a mere effort of her will, the clear, unruffled waters that fill the chambers of the sea. She floated forth with the serene grace of a frail bubble ascending through the still atmosphere of a June day. The perfect roundness of her limbs formed suave and enchanting curves. It was like listening to the most spiritual symphony of Beethoven the divine, to watch the harmonious flow of lines. This, indeed, was a pleasure cheaply purchased at any price. What cared I, if I had waded to the portal of this wonder through another's blood? I would have given my own to enjoy one such moment of intoxication and delight.

Breathless with gazing on this lovely wonder, and forgetful for an instant of everything save her presence, I withdrew my eye from the microscope eagerly, −− alas! As my gaze fell on the thin slide that lay beneath my instrument, the bright light from mirror and from prism sparkled on a colorless drop of water! There, in that tiny bead of dew, this beautiful being was forever imprisoned. The planet Neptune was not more distant from me than she. I hastened once more to apply my eye to the microscope.

Animula (let me now call her by that dear name which I subsequently bestowed on her) had approached the

wondrous forest, and was gazing earnestly upwards. Presently one of the trees −− as I must call them −− unfolded a long ciliary process, with which it seized one of the gleaming fruits that glittered on its summit, and sweeping slowly down, held it within reach of Animula. The sylph took it in her delicate hand, and began to eat. My attention was so entirely absorbed by her, that I could not apply myself to the task of determining whether this singular plant was or was not instinct with volition.

I watched her, as she made her repast, with the most profound attention. The suppleness of her motions sent a thrill of delight through my frame; my heart beat madly as she turned her beautiful eyes in the direction of the spot in which I stood. What would I not have given to have had the power to precipitate myself into that luminous ocean, and float with her through those groves of purple and gold! While I was thus breathlessly following her every movement, she suddenly started, seemed to listen for a moment, and then cleaving the brilliant ether in which she was floating, like a flash of light, pierced through the opaline forest, and disappeared.

Instantly a series of the most singular sensations attacked me. It seemed as if I had suddenly gone blind. The luminous sphere was still before me, but my daylight had vanished. What caused this sudden disappearance? Had she a lover, or a husband? Yes, that was the solution! Some signal from a happy fellow−being had vibrated through the avenues of the forest, and she had obeyed the summons.

The agony of my sensations, as I arrived at this conclusion, startled me. I tried to reject the conviction that my reason forced upon me. I battled against the fatal conclusion, −− but in vain. It was so. I had no escape from it. I loved an animalcule!

It is true, that, thanks to the marvellous power of my microscope, she appeared of human proportions. Instead of presenting the revolting aspect of the coarser creatures, that live and struggle and die, in the more easily resolvable portions of the water−drop, she was fair and delicate and of surpassing beauty. But of what account was all that? Every time that my eye was withdrawn from the instrument, it fell on a miserable drop of water, within which, I must be content to know, dwelt all that could make my life lovely.

Could she but see me once! Could I for one moment pierce the mystical walls that so inexorably rose to separate us, and whisper all that filled my soul, I might consent to be satisfied for the rest of my life with the knowledge of her remote sympathy. It would be something to have established even the faintest personal link to bind us together, −− to know that at times, when roaming through those enchanted glades, she might think of the wonderful stranger, who had broken the monotony of her life with his presence, and left a gentle memory in her heart!

But it could not be. No invention, of which human intellect was capable, could break down the barriers that Nature had erected. I might feast my soul upon her wondrous beauty, yet she must always remain ignorant of the adoring eyes that day and night gazed upon her, and, even when closed, beheld her in dreams. With a bitter cry of anguish I fled from the room, and, flinging myself on my bed, sobbed myself to sleep like a child.

Chapter 6: THE SPILLING OF THE CUP.

I AROSE the next morning almost at daybreak, and rushed to my microscope. I trembled as I sought the luminous world in miniature that contained my all. Animula was there. I had left the gas−lamp, surrounded by its moderators, burning, when I went to bed the night before. I found the sylph bathing, as it were, with an expression of pleasure animating her features, in the brilliant light which surrounded her. She tossed her lustrous golden hair over her shoulders with innocent coquetry. She lay at full length in the transparent medium, in which she supported herself with ease, and gambolled with the enchanting grace that the Nymph Salmacis might have exhibited when she sought to conquer the modest Hermaphroditus. I tried an experiment to satisfy myself if her powers of reflection were developed. I lessened the lamp−light considerably. By the dim light that remained, I could see an expression of pain flit across her face. She looked upward suddenly, and her brows contracted. I flooded the stage of the microscope again with a full stream of light, and her whole expression changed. She sprang forward like some substance deprived of all weight. Her eyes sparkled, and her lips moved. Ah! if science had only the means of conducting and reduplicating sounds, as it does the rays of light, what carols of happiness would then have entranced my ears! what jubilant hymns to Adonais would have thrilled the illumined air!

I now comprehended how it was that the Count de Gabalis peopled his mystic world with sylphs, −− beautiful beings whose breath of life was lambent fire, and who sported forever in regions of purest ether and purest light. The Rosicrucian had anticipated the wonder that I had practically realized.

How long this worship of my strange divinity went on thus I scarcely know. I lost all note of time. All day

from early dawn, and far into the night, I was to be found peering through that wonderful lens. I saw no one, went nowhere, and scarce allowed myself sufficient time for my meals. My whole life was absorbed in contemplation as rapt as that of any of the Romish saints. Every hour that I gazed upon the divine form strengthened my passion, −− a passion that was always overshadowed by the maddening conviction, that, although I could gaze on her at will, she never, never could behold me!

At length I grew so pale and emaciated, from want of rest, and continual brooding over my insane love and its cruel conditions, that I determined to make some effort to wean myself from it. "Come," I said, "this is at best but a fantasy. Your imagination has bestowed on Animula charms which in reality she does not possess. Seclusion from female society has produced this morbid condition of mind. Compare her with the beautiful women of your own world, and this false enchantment will vanish."

I looked over the newspapers by chance. There I beheld the advertisement of a celebrated danseuse who appeared nightly at Niblo's. The Signorina Caradolce had the reputation of being the most beautiful as well as the most graceful woman in the world. I instantly dressed and went to the theatre.

The curtain drew up. The usual semi−circle of fairies in white muslin were standing on the right toe around the enamelled flower−bank, of green canvas, on which the belated prince was sleeping. Suddenly a flute is heard. The fairies start. The trees open, the fairies all stand on the left toe, and the queen enters. It was the Signorina. She bounded forward amid thunders of applause, and lighting on one foot remained poised in air. Heavens! was this the great enchantress that had drawn monarchs at her chariot−wheels? Those heavy muscular limbs, those thick ankles, those cavernous eyes, that stereotyped smile, those crudely painted cheeks! Where were the vermeil blooms, the liquid expressive eyes, the harmonious limbs of Animula?

The Signorina danced. What gross, discordant movements! The play of her limbs was all false and artificial. Her bounds were painful athletic efforts; her poses were angular and distressed the eye. I could bear it no longer; with an exclamation of disgust that drew every eye upon me, I rose from my seat in the very middle of the Signorina's pas−de−fascination, and abruptly quitted the house.

I hastened home to feast my eyes once more on the lovely form of my sylph. I felt that henceforth to combat this passion would be impossible. I applied my eye to the lens. Animula was there, −− but what could have happened? Some terrible change seemed to have taken place during my absence. Some secret grief seemed to cloud the lovely features of her I gazed upon. Her face had grown thin and haggard; her limbs trailed heavily; the wondrous lustre of her golden hair had faded. She was ill! −− ill, and I could not assist her! I believe at that moment I would have gladly forfeited all claims to my human birthright, if I could only have been dwarfed to the size of an animalcule, and permitted to console her from whom fate had forever divided me.

I racked my brain for the solution of this mystery. What was it that affected the sylph? She seemed to suffer intense pain. Her features contracted, and she even writhed, as if with some internal agony. The wondrous forests appeared also to have lost half their beauty. Their hues were dim and in some places faded away altogether. I watched Animula for hours with a breaking heart, and she seemed absolutely to wither away under my very eye. Suddenly I remembered that I had not looked at the water−drop for several days. In fact, I hated to see it; for it reminded me of the natural barrier between Animula and myself. I hurriedly looked down on the stage of the microscope. The slide was still there, −− but, great heavens! the water−drop had vanished! The awful truth burst upon me; it had evaporated, until it had become so minute as to be invisible to the naked eye; I had been gazing on its last atom, the one that contained Animula, −− and she was dying!

I rushed again to the front of the lens, and looked through. Alas! the last agony had seized her. The rainbow−hued forests had all melted away, and Animula lay struggling feebly in what seemed to be a spot of dim light. Ah! the sight was horrible: the limbs once so round and lovely shrivelling up into nothings; the eyes −− those eyes that shone like heaven −− being quenched into black dust; the lustrous golden hair now lank and discolored. The last throe came. I beheld that final struggle of the blackening form −− and I fainted.

When I awoke out of a trance of many hours, I found myself lying amid the wreck of my instrument, myself as shattered in mind and body as it. I crawled feebly to my bed, from which I did not rise for months.

They say now that I am mad; but they are mistaken. I am poor, for I have neither the heart nor the will to work; all my money is spent, and I live on charity. Young men's associations that love a joke invite me to lecture on Optics before them, for which they pay me, and laugh at me while I lecture. "Linley, the mad microscopist," is the name I go by. I suppose that I talk incoherently while I lecture. Who could talk sense when his brain is haunted by

such ghastly memories, while ever and anon among the shapes of death I behold the radiant form of my lost Animula!