

"THE STORY OF OUR LIVES FROM YEAR TO YEAR"

ALL THE YEAR ROUND

A Weekly Journal

CONDUCTED BY

CHARLES DICKENS, JUN.

WITH WHICH IS INCORPORATED

"HOUSEHOLD WORDS"

No. 112. NEW SERIES.

SATURDAY, JANUARY 21, 1871.

PRICE TWOPENCE.

THE ROSE AND THE KEY.

CHAPTER I. UNOCULUS.

THE level light of a summer sunset, over a broad heath, is brightening its brown undulations with a melancholy flush, and turning all the stalks of heather in the foreground into twisted sticks of gold. Insect wings sparkle dimly in the air; the lagging bee drones homeward, and a wide drift of crows, cawing high and faint, show like shadows against the sea-green sky, flecked with soft crimson, as they sail away to the distant dormitories of Westwold Forest.

Toward the sunset end of this savage heath stand four gigantic fir-trees, casting long shadows. One, indeed, is little more than a rotten stump, some twelve feet high; all bend eastwards, shorn of their boughs nearly to the top, and stretching the arms that remain, some yellow and stripped of their bark, in the same direction, as if they all signalled to the same distant point. These slanting fir-trees look like the masts of a mighty wreck; and antiquaries say that they are the monumental relics of a forest that lies buried under the peat.

A young lady, her dress of dark serge, with a small black straw-hat, a little scarlet feather in it, and wearing a pair of boots, such as a country artist might produce, made of good strong leather, with thick soles, but, in spite of coarse work and clumsy material, showing a wonderfully pretty little foot, is leaning lightly against one of these great firs. Her companion, an elderly lady, slight and merry, sits on a little hillock of turf at her feet.

The dress of the elder lady corresponds with that of the younger. It is that of a

person inured to the practice of a strict but not uncomfortable economy.

The young lady has dropped a little japanned colour-box and a block-book at her feet. Is she an artist? Possibly a governess? At all events, she is one of the loveliest creatures eyes ever lighted on. Is there any light more becoming than that low, richly tinted beam, that comes subdued through the mists of sunset?

With a pleased look—the listening look which such spiritual delight assumes—with parted lips, the light touching the edge of her little teeth, with eyes a-glow with rapture, drinking in the splendour and beauty of the transitory hour and scene, as if she could look on in silence and beatitude for ever, the girl leans her little shoulder to the ancient tree.

With a long sigh, she says at last:

"I was going to ask your forgiveness, dear old cousin Max."

"For what?" asked the old lady, turning up a face pleasantly illuminated with the golden light.

"For making you take so long a walk. I'm a little tired myself. But I don't beg your pardon, because I think this more than makes amends. Let us look for a minute more, before all fades."

The old lady stood up, with a little shrug and screw of her shoulders.

"So I am—quite stiff—my old bones do complain; but oh, really, it is quite beautiful! I see it so much better standing here; that bank was in my way. How splendid—gorgeous!"

The scene was indeed worth a detour in their homeward route. Two grand and distant ranges of mountain, approaching from right and left, stop short in precipitous terminations that resemble the confronting castles of two gigantic lines of

fortification, leaving an undulating plane between, with the sunset sky, and piles of flaming cloud, for a horizon; and, in the comparatively near foreground, rises between these points an abrupt knoll crowned by the ruined castle of Cardyllion, and, with the village studded with grand old trees, looking like a town on fire.

In nearer foreground, in the hollow, in solemn purple shadow, are masses of forest; and against the faint green and yellow sky are spread streaks of purple vapour, and the crimson and scarlet fires of sunset.

"This should reconcile us to very humble ways; and more, I feel that through marble pillars, through great silk curtains, among mirrors, bronzes, china, and all the rest, looking out from a velvet sofa, I could not see, much less enjoy all this, as I do."

Cousin Max laughed.

"Very wise! very philosophical! very romantic!" exclaimed she. "But it is enough to be content with one's station in life, and not to grow too fond of any. To be content is, simply, not to wish for change. My poor father used to say that those who wished for change were like those who wished for death. They longed for a state of which they had no experience, and for which they might not be so fit as they fancied, for every situation has its liabilities as well as its privileges. That is what he used to say."

"Dear Max, I withdraw it, if I said anything sensible, for whenever I do you grow so wise that you bore me to death." She kissed her. "Do let us be foolish, darling, while we are together, and we shall understand one another perfectly. See how quickly the scene changes. It is very beautiful, but not quite so glorious now."

At this moment the sound of steps, close behind them upon the soft peat, made them both turn their heads.

A sleek, lean man, lantern-jawed, in a shabby, semi-clerical costume, passed them by in front, from right to left, in an oblique line. He was following a path, and was twirling a stick slowly in his hand by its crooked handle, and gazing up at the sky with one eye—the other was blind—with a smile that was meant to be saintly. In spite of his meek smile, and his seedy and mean exterior, the two ladies had come to connect ideas of the sinister and the dangerous with this man.

"Upon my life," said the elder lady,

after a pause, "I do believe—I'm almost sure—that is the very man."

"I am perfectly certain," said the young lady, who had followed him with her eyes until he was hidden from view by a screen of furze and hawthorns, a little way to the left. "I can't imagine what that odious, ill-looking man can possibly mean by following us about as he does."

"Perhaps he is asking himself a question very like that about us?" said the old lady, with a laugh.

"Not he. He is following us."

"I saw him at Penmaen Mawr, but nowhere else," said Miss Max.

"But I saw him at Chester, and there could be no mistake about his watching us there. I saw him look at our luggage, and look for our names there, and I saw him stand on the step of his carriage at Conway, until he saw us get out with the evident intention of staying there; and then he got down with that little leather bag, that seems to be all that he possesses, and he came to our hotel, simply, I am certain, to watch us. You must recollect, when we returned from our little walk, that I told you I saw him sitting in the room near the stairs, don't you recollect, writing—don't you remember?"

"Yes, I remember your saying there was a man blind of an eye, the same we had observed at Penmaen Mawr, who had followed us, and was in the same place. But the people at the inn said he was a travelling secretary to some religious society, collecting money."

"Did not you say," persisted the young lady, "when you first saw him, that he was a very ill-looking man?"

"Yes; so I did. So he is. He looks sanctimonious and roguish, and that white eye makes his face—I hope it is not very uncharitable to say so—almost villanous. I think him a very ill-looking man, and if I thought he was following us, I should speak to the police, and then set out for my humble home without losing an hour."

"And you don't think he is following us?" said the young lady.

"If he is travelling to collect subscriptions he may very well have come here about his business, and to Penmaen Mawr, and to Chester. I don't see why he must necessarily be following us. And Conway, too, he would have stopped at naturally. It does not follow at all that he is in pursuit of us because he happens to come to the same place.

The king himself has followed her
When she has gone before.

We are not worth robbing, my dear, and we look it. You must not be so easily frightened."

"Frightened! I'm not the least frightened," said the young lady, spiritedly. "I'm not what is termed a nervous young lady. You have no right to think that. But I don't believe he has any other business but tracking us from place to place. What other business on earth could he have had—getting out at Abber, for instance? I forgot to mention Abber. It is very odd, you must allow. Let us walk on." She had picked up her colour-box and her block. "Very odd that he should get out of the train wherever we stop, always about business, we are to suppose, that has no connexion with us; that he should follow us, by the same odd accident, where there is no rail, and where we can only get by a fly; that he should get always into the same quiet little inns, though, of course, he would like much better to be in noisier places, where he would meet people like himself; and that he should turn up, this evening, so near our poor little lodgings, and go by that path which brings him there. What on earth can he want in that direction?"

"Yes, I do think it's odd, my dear; and, I say, I think he does look very villanous. But what can he possibly want?" said the old lady. "Why should he follow us? How are we to account for it?"

"I don't pretend to account for it," said the girl, as they trudged on side by side; "but it is just possible that he may be a detective, who mistakes us for some people he is in pursuit of. I only know that he is spoiling my poor little holiday, and I do wish I were a man, that I might give him a sound drubbing."

The old lady laughed, for the girl spoke threateningly, with a flash from her splendid eyes, and for a moment clenched the tiniest little fist you can fancy.

"And you think he's gone before us to Pritchard's farm-house?" said the old lady, glancing over her shoulder in that direction, above which a mass of thundrous cloud was rising. "Dear me! how like thunder that is."

"Awfully!" said the young lady. "Stop a moment—I thought I heard distant thunder. Listen!"

They both paused, looking toward those ominous piles of cloud, black against the now fast-fading sky.

CHAPTER II. A GUIDE.

"HUSH!" said the young lady, laying her fingers on her companion's arm.

They listened for a minute or more.

"There it is!" exclaimed the girl, as a faint rumble spread slowly along and among the mountains.

They remained silent for a minute after it had passed away.

"Yes, that certainly was thunder," said the elder lady; "and it is growing so dark; it would not do to be caught in the storm, and to meet our one-eyed persecutor, perhaps, and we have fully a mile to go still. Come, we must walk a little faster."

"I hope it will be a good thunder-storm," said the young lady watching the sky, as they hurried on. "It frightens me more than it does you, but I think I like it better."

"You may easily do that, dear; and like our farm-house better than I do, also."

"We are frightfully uncomfortable, I agree. Let us leave it to-morrow," said the young lady.

"And where shall we go next?" inquired her companion.

"To Llanberris, if I'm to decide," said the girl. "But first we must look over the castle at Cardyllion, and there are one or two old houses I should like to sketch—only roughly."

"You are making too great a labour of your holiday: you sketch too much."

"Well, we leave to-morrow, and the day after is Sunday, and then—on Monday—my holiday ends, and my slavery begins," said the young lady, vehemently.

"You certainly do use strong language," said the elder lady, a little testily. "Why don't you try to be contented? Dear me! How much nearer the thunder is!"

"It will soon be darker, and then we shall see the lightning splendidly," said the young lady.

"Don't stop, darling, let us get on. I was going to say, you must study to be content—remember your catechism. The Queen, I dare say, has things to complain of; and Farmer Pritchard's daughter, who has, as you fancy, a life of so much liberty, will tell you she is something of a slave, and can't do, by any means, quite as she likes. I only hope, dear Maud, we have money enough to bring us home."

"We can eke it out with my drawings. We shan't starve. We can have the ruins of Carnarvon Castle for breakfast, and eat Snowdon for dinner, and turn the Menai into tea. It is a comfort to know I can

live by my handiwork. I don't think, cousin, I have a shilling I can call my own. If I could earn enough by my drawing to live on, I think I should prefer it to any other way of living I can imagine."

"You used to think a farmer's life the happiest on earth," said the old lady, trudging along. "There's Richard Pritchard, why not marry him?"

"I might do worse; but there are half a dozen conclusive reasons against it. In the first place, I don't think Richard Pritchard would marry me; and, next, I know I wouldn't marry Richard Pritchard; and, thirdly, and seriously, I shall never marry at all, never, and for the reasons I have told you often; and those reasons can never change."

"We shall see," said her companion, with a laugh and a little shake of her head. "Good Heavens!" exclaimed the old lady, as nearer thunder resounded over the landscape.

"Hush!" whispered the girl, as they both paused and listened, and when it had died away, "What a noble peal that was!" she exclaimed. And as they resumed their march she continued: "I shall never marry: and my resolution depends on my circumstances, and they, as you know, are never likely to alter—humanly speaking, they never can alter—and I have not courage enough to make myself happy; and, coward as I am, I shall break my own heart rather than break my chains. Where are we now?"

As she said this she came to a sudden halt at the edge of a deep channelled stream, whose banks just there stand steep and rugged as those of a ravine, crowned with straggling masses of thorn and briars. She gazed across, and up and down the stream, which was swollen just then by mountain rains of the night before.

"Can we have missed our way?" said the elder lady.

"What on earth has become of the wooden bridge?" exclaimed the younger one.

There was still quite light enough to discern objects; and Miss Max, catching her young companion by the hand, whispered:

"Good gracious, Maud! Is that the man?"

"What man?" she asked, startled.

"The blind man—the person who has been following us."

Miss Maud—for such was the young lady's name—said nothing in reply. The

two ladies stood irresolute, side by side. Maud had seen the person who was approaching, once only in her life. It was two days before, as she and her cousin were getting out of their fly at the Verney Arms, in the pretty little town of Cardyllion. She was a proud young lady; it would have taken a good deal to make her avow, even to herself, the slightest interest in any such person. Nevertheless, she recognised him a good many seconds before good Miss Max had discovered her mistake.

She was standing beside that elderly lady. They were both looking across the stream; the young lady furthest from the stranger had turned a little away.

There is quite light enough to see faces still, but it will not last long. The young man is very handsome, and also tall. He has been fishing, and has on a pair of those gigantic jack-boots in which fishermen delight to walk the rivers. He wears a broad-leafed hat, round which are wound his flies. A boy with his rod, net, and basket trudges behind.

The old lady speaks to him as he passes. He stops, lowers his cigar, and inclines to listen.

"I beg pardon," she says. "Can you tell me? There was—I am sure it was on this very spot—a bridge of plank across this stream, and I can't find it."

"Oh! They were taking that away to-day, as I passed by. It had grown unsafe, and the—the— Oh, yes; the new one is to be put up in the morning."

The odd little hesitation I have recorded was caused by his seeing the young lady, on a sudden, in the midst of his sentence, and for the moment forgetting everything else. And well he might, for he had been dreaming of her for the last two days.

He dropped his cigar, became, all at once, much more deferential, and with his hat in his hand, said:

"Do you wish to cross the brook? Because if you do, I can show you to some stepping-stones about a quarter of a mile higher up, where you can get across very nicely."

"Thanks. I should be so very much obliged," said the old lady.

The gentleman was only too happy, and having sent the boy on to the Verney Arms, talked very agreeably as he accompanied and directed their march. He had come down there for a little fishing; he knew the Verneys a little, and old Lord

Verney was such a very odd man! He told them stories of him, and very amusing some of them were, and his eye always glanced to see the effect of his anecdotes upon Miss Maud. Two or three times he ventured to speak to her. The young lady did not either encourage or discourage these little experiments, and answered very easily and carelessly, and, I am bound to say, very briefly too.

In the mean time, the thunder grew nearer and more frequent, and the wild reflection of the lightning flickered on trees and fields about them.

And now they had reached the thick clump of osiers, beneath which the stepping stones, of which they were in search, studded the stream. Only the summits of these stones were now above the water, and the light was nearly gone.

CHAPTER III. PLAS YLWD.

"I HAVE not courage for this," said the old lady, aghast, eyeing the swift current and the uncertain footing to which, in the most deceptive possible twilight, she was invited to commit herself.

"But you know, darling, we must get across somehow," urged the girl, cruelly. "It is quite easy; don't fancy anything else."

And she stepped lightly over.

"It is all very fine with your young feet and eyes," she replied; "but for an old woman like me it is little better than the tight rope; and it would be death to me to take a roll in that river. What on earth is to be done?"

"It *is* really a great deal easier than you suppose," said the obliging young gentleman, not sorry to find an opportunity of agreeing with Miss Maud, "and I think I can make it perfectly easy if you will just take my hand as you get across. I'll walk in the stream beside you. It is quite shallow here, and these things make me absolutely impervious to the water. Pray, try. I undertake to get you across perfectly safely."

So, supporting her across with his left hand, and walking beside her with his right, ready to assist her more effectually in case of a slip or stumble, he conducted her quite safely over.

When the lady had thanked him very earnestly, and he had laughingly disclaimed all right to her acknowledgments, another difficulty suddenly struck her.

"And now, how *are* we to find our farmhouse? I know the way to it perfectly

from the wooden bridge; but from this, I really haven't an idea."

"I'll make it out," said the young lady, before their guide had time to speak. "I like exploring; and it can't be far—a little in this direction. Thank you very much."

The last words were to the young man, whose huge boots were pouring down rivulets on the dry dust of the little pathway on which they were standing.

"If I am not too disagreeable a guide, in this fisherman's plight," he said, glancing, with a laugh, at his boots, "nothing would please me so much as being allowed to point out the way to you. I happen to know it perfectly, and it is by no means so easy as you may suppose, particularly by this light—one can hardly tell distances, ever so near."

"Pray, don't think of it," said the girl, "I can make it out quite easily."

"Nonsense, my dear Maud. You could never make it out; and besides," she added, in an under tone, "how can you tell where that blind man may turn up, that follows us, as you say? We are very much obliged to you," she said, turning to him, "and you are doing us really a great kindness. I only hope it won't be bringing you too far out of your way?"

Very pleasantly, therefore, they went on. It became darker, rapidly, and though the thunder grew louder and more frequent, and the lightning gleamed more vividly across the landscape, the storm was still distant enough to enable Maud to enjoy its sights and sounds, without a sense of danger.

The thunder-clouds are stealthily but swiftly ascending. These battlements of pandemonium, "like an exhalation," screen the sky and stars with black, and from their field of darkness leaps now and then the throbbing blue, that leaves the eye dazzled, and lights rock and forest, hill and ruin, for a moment in its pale glare. Then she listens for the rumble that swells into long and loud-echoing reverberations. He stays his narrative, and all stop and listen. He smiles, as from under his long lashes he covertly watches the ecstasy of the beautiful girl. And then they set out again; the old lady vowing that she can't think why she's such a fool as to stop at such an hour, and tired to death as she is, to listen to thunder.

Farmer Pritchard, happily for wandering Tintos in that part of the world, is not one of those scientific agriculturists who cut down their hedge-rows and square their

fields. Our little party has now reached the stile which, under the shadow of some grand old elms, admits the rustics, who frequent Richard Pritchard, to his farm-yard.

It is an old and a melancholy remark, that the picturesque and the comfortable are hardly compatible. Here, however, these antagonistic principles are as nearly as possible reconciled. The farm-yard is fenced round with hawthorns and lime-trees, and the farm-house is a composite building, of which the quarter in which the ladies were lodged had formed a bit of the old Tudor manor-house of Plas Ylwd, which gave its name to the place.

A thatched porch, with worn stone pillars and steps, fronts the hatch; and from beside this, through a wide window of small panes, a cheerful light was scattered along the rough pavement, and more faintly on the hanging foliage of the tree opposite.

"What a pretty old house!" the young fisherman exclaimed, looking up at the gables, and the lattices, and the chimneys that rose from the deep thatch of the cobbled old house.

"It may be prettier in this light, or rather darkness, than at noon," said the old lady, with a shrug, and a little laugh.

"But it really is, in any light, an extremely pretty old house," said the girl, taking up the cudgels for their habitation, "and everything is so beautifully neat. I think them such nice people."

A few heavy rain-drops had fallen sullenly as they came, and now with the suddenness of such visitations, the thunder shower, all at once, began to descend.

"Come in, come in," said the old lady, imperiously.

Very willingly the young gentleman stepped under the porch.

They all three stood there for a moment, looking out towards the point from which, hitherto, the lightning had been chiefly visible.

"Oh! But you must come in and take a cup of tea," said the old lady, suddenly recollecting. "You *must* come in, really."

Their walk and little chat, and the climbing of stiles, and the rural simplicities that surrounded, had made her feel quite intimate. He glanced covertly at the young lady, but in her face he saw neither invitation nor prohibition; so he felt at liberty to choose, and he stepped, very gladly, into the house.

As you enter the old house you find yourself in a square vestibule, if I can call by so

classic a name anything so rude. Straight before you yawns an arch that spans it from wall to wall, giving admission to the large kitchen of the farm-house: at your right, under a corresponding moulded arch, opens the wide oak staircase of the manor-house, with a broad banister, on the first huge stem of which, as on a vestal altar, is placed a burnished candlestick of brass, in which burns a candle to welcome the return of old Miss Max and young Miss Maud Guendoline.

The young lady steps in with the air, though she knows it not, of a princess into her palace.

As they enter, her ear is struck by an accent, not Welsh, and a voice the tones of which have something of a cold, bleating falsetto, which is intensely disagreeable, and looking quickly through the arched entrance to the kitchen, she sees there, taking his ease in an arm-chair by the fire-place, the long-visaged man with the white eye.

He is holding forth agreeably, with a smile on his skinny lips. He gesticulates with a long hand, the nails of which are black as ebony. The steam of the saintly man's punch makes a halo round his head; and his hard cheeks are flushed with the pink that tells of inward comfort. His one effective eye addresses itself, although he is haranguing Richard Pritchard's wife, to Richard Pritchard's daughter, who is very pretty, and leans, listening to the ugly stranger, with her bare arms rolled in her apron, on the high back of one of the old-fashioned oak chairs.

SCIENCE AND IMAGINATION.

THE vulgar conception of a man of science pictures him as an irreclaimable Dr. Dryasdust, strongly impressed with the fact that two and two make four, loving languages for the sake of their declensions and conjugations, and preferring those which have most irregular verbs. The populace's man of science delights in weights and measures, logarithms, statistical tables, tottles of the whole, and discoveries which unscientific men will turn to account in the form of patents. The conventional man of science is a plodder who grants nothing until it is logically or experimentally proved, a matter-of-fact dullard, a proser, a bore.

Another idea has long been current exactly the reverse of the above. Your

philosopher is a dreamer, a schemer, a speculator, whom his friends ought to put into a lunatic asylum—an alchemist, a squarer of the circle, a concoctor of the elixir of life. This species of philosopher works at a project, because the world holds it to be impossible.

Recent years have done much to efface both these notions of what philosophy is and is not. Society is more tolerant than it was, forty or fifty years ago, of philosophical discussions, even when they touch upon the gravest subjects. Moreover, truth may be resisted, and cavilled at, and pooh-poohed, up to a certain point; but, beyond a certain point, it is irresistible. When its evidences have accumulated into a mass of sufficient volume, they burst the sandy dykes of prejudice, and sweep all opposition before them. This is especially notable in the school of which Dr. Tyndall is one of the most illustrious ornaments. He and his colleagues have been listened to unwillingly; they have gained their ground laboriously; and now, we believe, they have more disciples, or at least very nearly convinced listeners, than choose openly to avow themselves as such.

All Dr. Tyndall's works mark advances in the progress of modern science. They may be read over and over again with increased instruction and interest. They are indispensable to the favourite book-shelf of every one who wishes to know, and is able to think. On this account we remind our readers of an addition to them, which, though professedly merely an occasional discourse, really makes an integral part of the series. On the 16th of September, 1870, Dr. Tyndall delivered before the British Association, at Liverpool, a wonderful oration, On the Scientific Use of the Imagination.

We are constantly reminded, even by the conversational expressions of every-day life, of the help which imagination affords to science. How is an important discovery spoken of? It is a bright idea, a lucky hit, a happy thought, a fortunate guess, a clever notion, an inspiration of genius, a successful experiment. It is evidently something good and new attained by an intellectual leap, or spring, and not a result worked out step by step, by chopping logic and spinning a series of "therefores," like Euclid's solution of a problem.

What are scientific experiments but brilliant efforts of the imagination? "I imagine that, under such and such circumstances, such and such will be the case. I

don't know it; but I will try." By no one is this fact more profusely and more convincingly illustrated than by Dr. Tyndall, both in his published books and his lectures. He amplifies the experiments of other philosophers, besides inventing experiments of his own. He wishes to know whether pure water be, as most people suppose it, absolutely colourless. It is so, as we usually see it, in small quantities; but a very thin stratum of pale ale is almost as colourless as a stratum of water. He pours distilled water into a drinking-glass; it exhibits no trace whatever of colour: so he imagines an experiment to show us that this pellucid liquid, in sufficient thickness, has a very decided colour.

"Here," he says triumphantly, "is a tube fifteen feet long, placed horizontally, its ends being stopped by pieces of plate-glass. At one end of the tube stands an electric lamp, from which a cylinder of light will be sent through the tube. It is now half filled with water, the upper surface of which cuts the tube in two equal parts horizontally. Thus, I send half of my beam through air, and half through water, and with this lens I intend to project a magnified image of the adjacent end of the tube upon this screen. You now see the image, composed of two semicircles, one of which is due to the light which has passed through the water, the other to the light which has passed through the air. Side by side, thus, you can compare them; and you notice that while the air semicircle is a pure white, the water semicircle is a bright and delicate blue-green." The real colour of distilled water was ascertained and proved beyond a doubt.

Again: somebody once imagined that sound was owing to commotions of some kind produced in the air, and consequently that air was necessary to the propagation of sound. No air, no sound, it was guessed. But what airless region of the world could the learned then find to put the notion to the test? In course of time, the air-pump was constructed. A celebrated experiment, which proved the truth of the theory, was made by a philosopher named Hawksbee, before the Royal Society, in 1705. He so fixed a bell within the receiver of an air-pump, that he could ring the bell when the receiver was exhausted. Before the air was withdrawn, the sound of the bell was heard within the receiver; after the air was withdrawn, the sound became so faint as to be hardly perceptible. The experiment will be familiar

to our readers, but it was not the less a successful effort of imagination at the time.

Dr. Tyndall, as is his wont, carries it further. After exhausting the receiver as perfectly as possible, he allows hydrogen gas—which is fourteen times lighter than air—to enter the vessel. The sound of the bell is not sensibly augmented by the presence of this attenuated gas, even when the receiver is full of it. By working the pump, the atmosphere round the bell is rendered still more attenuated. In this way a vacuum is obtained more perfect than that of Hawksbee; which is important, for it is the last traces of air that are chiefly effective in this experiment. The hammer is then seen pounding the bell, but no sound is audible. An ear placed against the exhausted receiver is unable to hear the faintest tinkle. Note, however, that the bell is suspended by strings; for if it were allowed to rest upon the plate of the air-pump, the vibrations would communicate themselves to the plate and be transmitted to the air outside. All that can be heard by the most concentrated attention, with the ear placed against the receiver, is a feeble thud, due to the transmission of the shock of the hammer through the strings which support the bell. On permitting air to enter the jar with as little noise as possible, a feeble sound is immediately heard, growing louder as the air becomes more dense, until every person assembled in the lecture-room distinctly hears the ringing of the bell.

But this is not all. At great elevations in the atmosphere, where the air is rarer than at the level of the sea, sound is sensibly diminished in loudness. Dr. Tyndall imagines the consequences of talking in an atmosphere considerably thinner than that which usually surrounds us.

“The voice,” he informs us, “is formed by urging air from the lungs through an organ called the larynx. In its passage it is thrown into vibration by the vocal chords, which thus generate sound. But when I fill my lungs with hydrogen, and endeavour to speak, the sound is weakened in a remarkable degree. The consequence is very curious. You have already formed a notion of the strength and quality of my voice. I now empty my lungs of air, and inflate them with hydrogen from this gas-holder. I try to speak vigorously, but my voice has lost wonderfully in power, and changed wonderfully in quality. You hear it, hollow, harsh, and unearthly: I cannot otherwise describe it.”

Cases like this justify us in calling science, romance reduced to practice. It is easily conceivable that scientific conceptions may be something more than mere figments of the fancy. A thing imagined need not be a figment at all; it need not be a lie, the thing which is not. Its truth or its falsity is tested by experiment, resulting in the discovery of fact. From this bold essay of hydrogen as a conversational medium is deduced the axiom: the intensity of a sound depends on the density of the air in which the sound is generated, and not on that of the air in which it is heard.

The importance of imagination as an auxiliary to science is particularly manifested by the short-comings of science in consequence of insufficient aid from imagination. How many discoveries have, over and over again, been all but discovered before they were actually and finally attained! How often has fancy's airy wing failed for want of just a little more strength! The first inventors of block-printing never dreamt of movable types. Similar cases are so plentiful, that they would furnish the materials of a curious paper. From time immemorial it has been known that heat was generated by motion, especially by the motions of friction and impact. Nobody can say when people first warmed their hands by rubbing them together, or what savage first produced fire by the friction of suitable pieces of wood. A rifle-bullet, while pursuing its course, is warmed by the friction of the air; there has even been talk of cooking eggs by friction, by whirling them round in the air in a sling. You may warm a bit of cold iron by beating it with a cold hammer on a cold anvil. A horse's iron shoe is made hotter than the horse's foot by quick trotting over a cold stone pavement. All this heat was attributed to the accumulation of caloric, a subtle fluid, the fluid of heat.

Count Rumford was one of the first to propound, in 1798, the theory regarding the nature of heat which is now universally admitted by men of science. The suggestive fact which led to it—as the falling apple led Newton to universal gravitation—was the large amount of heat developed in the process of boring cannon at Munich. To test his idea, he contrived an apparatus for the generation of heat by friction, and with it succeeded in actually boiling water, originally at a temperature of sixty degrees Fahrenheit, in two hours and a half. “It would be difficult,” he says, “to de-

scribe the surprise and astonishment expressed in the countenances of the bystanders on seeing so large a quantity of water heated, and actually made to boil, without any fire." Dr. Tyndall, being short of time, produced the same effect, by similar means, on a small quantity of water, in two minutes and a half.

The electric telegraph is perhaps the thing which has most frequently missed the consummation of discovery. In 1732, it was prefigured in the shape of a desirable and perhaps possible talisman. Indeed, talismans and amulets often express anxious longings after ends which we now either know to be impossible, or which we have either partially or completely realised. Express trains, for instance, are not bad substitutes for the flying carpet of the Arabian Nights. Now Father Lebrun (in his *Histoire critique des Pratiques superstitieuses qui ont séduit les Peuples, et embarrassé les Savants*) records the employment of the magnet as a means of conversing at a distance. "I have heard say several times that certain persons have interchanged secret communications by means of two magnetic needles. Two friends took each a compass, around which were engraved the letters of the alphabet, and, they pretend, when one of the friends made the needle point to any letter, the other needle, although distant several leagues, immediately turned to the same letter. I do not answer for the fact; I only know that several persons, as Salmut, have believed it possible, and that several persons have refuted this error."

This "error" is nothing less than the electric telegraph, minus the batteries and the conducting wires.

Aldini, again, in his *Essai Théorique et Experimentale sur le Galvanisme*, published in 1804, hit upon a veritable electric telegraph without knowing it. His object was to ascertain whether a galvanic shock could be transmitted through the sea. It had already been effected through the waters of the Lake of Geneva by Swiss, and through those of the Thames by English philosophers. Happening to visit Calais, he laid down a wire from a battery on the end of the west jetty to the platform of Fort-Rouge, now demolished. The effects of the battery fixed on the jetty were felt, not only by living persons stationed on the platform, but even recently slain animals betrayed by their contractions the fact that they had received the message sent from the distant battery. In this suggestive

experiment (and we now wonder how people could be so dull) all that was wanted to constitute the telegraph were the dial-plates at each end of the wire.

Dr. Tyndall's discourse, however, applies itself rather to theory than to its practical application. A correct theory is the key to knowledge; starting from that, the consequences are sure. But without imagination, no theory is possible. Scientific education, he everywhere insists, ought to teach us to see the invisible, as well as the visible, in nature; to picture, with the eye of the mind, those operations which entirely elude the eye of the body; to look at the very atoms of matter, in motion and at rest, and to follow them forth, without ever losing sight of them, into the world of the senses, and see them there integrating themselves in natural phenomena.

Most needful to be pictured on the retina of the mind are the pulsations which pervade all nature. By means of pulsations in ether, we see; by pulsations in the air, we hear; by nervous pulsation, we taste, smell, and feel; by pulsations of the heart, we live. Existence is made up of fits and starts, intermittent though regular, and not the less real for being so rapid that our senses perceive but few of their intervals. It is the eye of the mind only which can realise them clearly.

Most happily does Dr. Tyndall select, as his principal illustration of the Scientific Use of the Imagination, the undulatory theory of light. Light, which is the synonym of perception and intelligence, is, we now feel thoroughly assured, the result of a mechanism utterly and absolutely imperceptible by our senses. It is the consequence of pulsations or waves in a subtle ether pervading all space. But we only know the ether intellectually. No one has ever compressed it, so as to make it tangible, nor revealed its presence by chemical tests. No one has ever felt it blow on his cheek, or seen the lightest film of down displaced by its currents. The ether itself is far beyond our ken: and yet we know that it must exist, because we see, and witness the phenomena of light and vision, which, in many instances, are only a repetition, in another form, of the phenomena of sound.

It is difficult to state the case, even briefly, without borrowing not only Dr. Tyndall's thoughts, but in great measure his very words. Sound travels through different media with different velocities. In water, it is propagated at the rate of

four thousand seven hundred feet a second, whereas the wave-motion in water (like that produced by the fall of a heavy rain-drop on a tranquil pond) is propagated at a rate which does not amount to a foot a second. Gravity and inertia are the agents by which this wave-motion is produced; whilst in the case of the sound-pulse, it is the elasticity of the water that is the urging force.

But water is not necessary to the conduction of sound; air is its most common vehicle. And when air possesses the particular density and elasticity corresponding to the temperature of freezing water, it is known that the velocity of sound in it is one thousand and ninety feet a second—almost exactly one-fourth of the velocity in water: the reason being that, although the greater weight of the water tends to diminish the velocity, the enormous molecular elasticity of the liquid far more than atones for the disadvantage due to weight. Now, we have a tolerably clear idea of the phenomena of sound. By various contrivances, we can compel the vibrations of the air to declare themselves; we know the length and frequency of sonorous waves. We can abolish one sound by another. We know the physical meaning of music and noise, of harmony and discord. In short, as regards sound, we have precise ideas of the physical processes by which special sensations are excited in our ears.

In these phenomena we travel a very little way from downright sensible experience. But still the imagination is brought into play, to some extent. We construct in thought the waves of sound which we cannot see with our bodily eye, and we believe as firmly in their existence as in that of the air itself. But, having mastered the cause and mechanism of sound, we desire to know the cause and mechanism of light. Here we have to call upon that expansive, almost creative power of the human intellect, which we call the imagination. In the case now before us, it is manifested by our transplanting into space, for the purposes of light, a modified form of the mechanism of sound.

We know on what the velocity of sound depends. When we lessen the density of a medium, and preserve its elasticity constant, we augment the velocity. When we heighten the elasticity, and keep the density constant, we also augment the velocity. A small density, therefore, and a great elasticity, are the two things necessary to rapid propagation.

Now light is known to move with the astounding velocity of one hundred and eighty-five thousand miles a second. How is such a velocity to be attained? By boldly diffusing in space a medium of the requisite tenuity and elasticity!

Accordingly, philosophers have made such a medium their starting-point, endowing it with one or two other necessary qualities; handling it in accordance with strict mechanical laws; and thus transferring it from the world of imagination to the world of sense, and trying whether the final result be not the very phenomena of light which ordinary knowledge and skilled experiment reveal. If, in all the multiplied varieties of these phenomena, including those of the most remote and entangled description, this fundamental conception always brings them face to face with the truth; if no contradiction to their deductions from it be found in external nature; if, moreover, it has actually forced upon their attention phenomena which no eye had previously seen, and which no mind had previously imagined; if, by it, they find themselves gifted with a power of prescience which has never failed when brought to an experimental test;—such a conception, which never disappoints them, but always lands them on the solid shores of fact, must, they think, be something more than a mere figment of the scientific fancy. It is impossible to come to any other conclusion than that reason and imagination, by their united action, have led them into an invisible world, which is not a bit less real than the world of the senses.

Imagination, then, in one brilliant instance, has guided us to one of the grandest physical facts. But this universal medium, this light-ether as it is called, is a vehicle, not an origin, of wave-motion. It receives and transmits, but it does not create. The motion it conveys is derived, for the most part, from luminous bodies. The scientific imagination, which is here authoritative, demands, as the origin and cause of a series of ether-waves, a particle of vibrating matter, quite as definite as, though incomparably smaller than, that which gives origin to a musical sound. Such a particle is named an atom, or a molecule, and is, we think, by no means difficult to imagine.

Acting on our retina, the different light-waves produce the sensation of different colours. Red, for example, is produced by the largest waves, violet by the smallest;

whilst green and blue are produced by waves of intermediate length and amplitude. We may compare their differences of magnitude to the billows of the ocean and the ripples of a pond. The shingle that would stop the one would have no perceptible effect on the other. Now, suppose a number of minute particles, like the notes which dance in sunbeams, to be suspended in the atmosphere. It will be admitted that, like the pebbles on a beach, they may have some influence on the smaller waves of light.

The sky is blue; which indicates a deficiency on the part of the larger waves. In accounting for the colour of the sky, the first question suggested by analogy would undoubtedly be, "Is not the air blue?" The blueness of the air has, in fact, been given as a solution of the blueness of the sky. But reason, basing itself on observation, asks in reply, "How, if the air be blue, can the light of sunrise and sunset, which travels through vast distances of air, be yellow, orange, and even red?" The passage of the white solar light through a blue medium could, by no possibility, redden the light. The hypothesis of a blue air is therefore untenable. In fact, the agent, whatever it is, which sends us the light of the sky, exercises, in so doing, a double action. The light reflected is blue, the light transmitted is orange or red.

But it is known that infinitely small particles, suspended in a medium, give it a blue tint, when seen by reflected light. There are glasses which show a bright yellow by transmitted, and a beautiful blue by reflected light. A trace of soap in water gives it a tint of blue, as does the steeping in it of a fresh shred of horse-chestnut bark. London milk makes an approximation to the same colour, through the operation of the same cause; and Helmholtz has irreverently disclosed the fact that a blue eye is simply a turbid medium.

The minuteness of the particles which produce our azure sky must be left entirely to imagination. From their perviousness to stellar light, and other considerations, Sir John Herschel drew some startling conclusions respecting the density and weight of the comets. We know that their tails often fill spaces immensely larger than the whole earth, whose diameter is only eight thousand miles. Both it and our sky, and a good space beyond the sky, would certainly be included in a sphere ten thousand miles across, three hun-

dred thousand of which spheres would be required to make up a handsome comet's tail. Now, suppose the whole of this cometary matter to be swept together, and suitably compressed, what do we suppose its volume would be? Sir John Herschel would tell us that the whole mass of this cometary rubbish might be carted away at a single effort by a single dray-horse. Perhaps even a donkey might do the work.

After this, we may entertain Dr. Tyndall's notion concerning the quantity of matter in our sky. Suppose a shell to surround the earth at a height above the surface which would place it beyond the grosser matter that hangs in the lower regions of the air—say at the height of the Matterhorn or Mont Blanc. Outside this shell we have the deep blue firmament. Let the atmospheric space beyond the shell be swept clean, and let the sky matter be properly gathered up. What is its probable amount? Dr. Tyndall has thought that a lady's portmanteau; nay, even that a gentleman's portmanteau—possibly his snuff-box—might take it all in. But whether the actual sky be capable of this amount of condensation or not, he entertains no doubt that a sky quite as vast as ours, and as good in appearance, could be formed from a quantity of matter which might be held in the hollow of the hand.

After this, the sky may fall, without making us quake about broken bones.

FREDERICUS REX (OLD FRITZ).

BY WILLIBALD ALEXIS.

(A FAVOURITE SONG IN THE PRUSSIAN CAMP.)

FREDERICUS REX, our King and our Lord,
He called to his soldiers to buckle on sword,
Two hundred battalions, of squadrons ten score,
And to each man some sixty cartouches or more.

"You rascals!" His Majesty was pleased to say,
"Like men every one you serve me to-day;
They grudge me Silesia, the Grafschaft of Glatz,
And the one hundred millions locked up in our Platz."

"The Empress and French are in league as I find,
And the Empire of Rome with the pair has combined;
The Russians have fallen on Prussian land, too,
Up and show them what Prussians in earnest can do."

"My Generals Schwerin and Field-Marshal Keith,
With Ziethen, are ready and armed to the teeth;
Potz Mohren, Blitz, Hagel, French look to your ears,
You little know Fritz and his old Grenadiers."

"Now, Louisa, adieu! Don't cry; never fear,
Some bullets fly crooked remember, my dear;
If each bullet went straight and plump into its mark,
We kings should be soon left alone in the dark."

"The musket-ball makes but a little round hole,
The cannon-ball knocks apart body and soul;
The bullets are all made of iron and lead,
Yet many a shot misses many a head."

"Their guns of calibre are smaller and fewer;
From Prussia the foe get no cannon, be sure,
The Swedes have such cursed bad money, you know;
What the Austrians have, time will speedily show."

Fredericus Rex, whom the laurel wreath crowns,
If you'd only but now and then plunder some towns;
Fredericus Rex, ere your banner was furled,
We'd chase you the devil clean out of the world.

SIX MONTHS IN THE EAST.

THE DEAD SEA, THE JORDAN, AND JERICHO.

EXACTLY eighteen days before the Christmas experience recorded last,* I bathed in the Dead Sea; and bathing there produces as novel a sensation as if you found yourself suddenly endowed with wings, and emulating the feats of a tumbler-pigeon in mid-air. You become a clumsy float, a top-heavy buoy, a swollen cork, the instant you are in its waters, and arms, legs, and body are apparently endowed with the strangest qualities. It is as if heavy weights were affixed to each directly you attempt to move, and experienced swimmers fail in their best strokes, by reason of the unnatural buoyancy with which they have to contend. Your limbs are on the surface, and you cleave the air with your hands, the moment you try to swim, and the man who would be drowned as soon as he was out of his depth, in any other sheet of water in the world, is the one best fitted for bathing in the Dead Sea. He cannot sink in it, let him do what he will. It is as if he were encased in life-belts, or sprawling on a feather-bed. If he lean back and throw his feet up, it is exactly as if he were resting in a peculiarly well-stuffed easy-chair, with a leg-rest to match. He may fold his arms, turn on one side, lie flat upon his stomach or back, clasp his knees with both hands, or draw toes and head together, in the shape the human body would assume if crammed hastily into a jar with its extremities left out, and all with no more possibility of sinking than if he were in so much soft sand. Woe to him if he be tempted by these unusual facilities to stay long in the water with his head uncovered! The bare and rocky walls of the low-lying caldron which holds the Sea of Death reflect back the burning sun and concentrate its rays; and a coup de soleil will be the all but inevitable consequence of his imprudence. Two of our party entered the water, and remained in it for some seconds before they re-covered their heads, and the result was severe shooting-pains, sickness, and dizziness, which lasted until their im-

mersion an hour later in the refreshing waters of the Jordan. Woe, too, to the inexperienced stranger who, following his rule in other bathing, dips his head as well as his body into the Dead Sea. Inflamed eyes and nostrils, together with hair and beard laden with acrid salts, are among the penalties of his rashness; while if he taste its waters he becomes acquainted with a greater concentration of nastiness than had entered into his imagination before. In buoyancy and bitterness the Sea of Sodom exceeded all we had heard or read respecting it; but in some other particulars our anticipations were falsified surprisingly. We looked for gloom, and we found brightness; we had imagined turbid waters, and we found a lake exquisitely clear and delicately blue; we expected perfect silence, and an unbroken waste, and we found the birds singing sweetly among the tamarisks and oleanders, which spring up wherever a stream finds its way from the mountains to mingle with the mysterious inland sea. There was an Arab encampment near its shore; camels and sheep were munching the green leaves, and a woman came from her tent to fill her pitchers at the muddy stream whose course we followed as we cantered down. It was nearly mid-day, and we had been in the saddle since seven that morning, our journey having been one long descent from the convent of Mar Sâba. Again and again we seemed to have turned the last stony defile, and to be about to enter the open space in the centre of which the Cities of the Plain once stood; and again and again did the precipitous bridle-path twine like some tortuous river, only to show us another stage of the tedious and hazardous descent. We had been met at Mar Sâba by an armed guard, whom Alee had engaged for our protection against the lawless tribes who wander through this region, and, with him as our pioneer, we rode through the burning heat, literally panting for the double bathe in store for us.

Our guard, one of a large family who live by protecting the travellers who visit the wild districts about the Dead Sea, was armed to the teeth, and was strikingly handsome. Has the reader ever taken the trouble to analyse the costumes which look so splendidly picturesque in David Roberts's or Carl Haag's paintings, and to ascertain the causes which go to make up their individual effect? I found it impossible to avoid doing this in the East, where every figure looks as if it had stepped bodily from some gorgeous

* See ALL THE YEAR ROUND, New Series, vol. v., p. 84.

canvas, and as if the disposal of draperies and the harmonious combination of colour had been the subject of laborious care. Such things are instinctive with the Oriental, and the faces and figures one meets in Egypt and Syria first astonish and delight, and finally suggest the question: How are these marvellously artistic results brought about? Our guard furnished a capital case in point. A six-barrelled silver-mounted revolver, "backsheesh present from French masters mee guide," was stuck in one side of his belt, with its decorated handle and shining barrels exposed. This was flanked by a long duelling pistol, "backsheesh from 'Merican master mee guide," and supported by dirks and a huge Damascus sabre. A loose white linen robe reaching from the neck to the feet, and garnished with crimson belts and sashes, had over it a wide-spreading cloak; and these would, but for an accident, have been credited with the striking general effect produced. On riding, however, through the dreary waste forming the site of Jericho, we all lost our head-dresses in turn. The far-reaching branches dis-crowned us, as our horses were shouldering their way through the densely thick shrubs and prickly foliage, and the artistic mystery of the guard's dress was solved upon the instant. Let the reader take a large square silk handkerchief, of gay, bright colours, fold it half corner-wise, as ladies do their shawls, and place it on his head. Let him then add a double cord of worsted rope, about the thickness of an old-fashioned bell-pull, which shall fit tightly round the crown and over this handkerchief, in such a way that the forehead has a square top-covering, while the sides of the face, and the whole of the neck, are shrouded in silk, which falls down to the shoulders in streaming ends. On doing thus, by far the most picturesque item in an Oriental dress is secured. The few seconds during which our guide's striped silk handkerchief (or keyfea) was in the tree told the whole story. We saw a common, rather sordid face, and a bullet-head, on which the closely cropped black hair suggested the House of Correction, in place of the dignified Arab beauty we had all admired. The Speaker without his wig, the Lord Chancellor in a shooting-coat, are figures which faintly convey the contrast between our Oriental with and without his head-dress. The whole secret of costume seemed solved, for we saw that in a pictorial sense a gaudy silk handkerchief, tastefully arranged, made

the difference between a Saladin and an armed clown.

The frontispiece to the *Talisman*, in the Favourite Edition of the *Waverley Novels*, represents the convent of Mar Sâba and the rugged grandeur of its site. If the reader has the volume at hand let him study this picture well, for there is nothing else like the place portrayed, in Palestine or the world. Its church, courts, cells, and chambers are built up and let into the caves and ridges of a lofty precipice, so that you cannot determine how much of the formidable structure before you is natural and how much the work of man. This precipice is faced by another, equally perpendicular and high, so that the holy house of Mar Sâba stands on the side of a roofless tunnel, the walls of which are above, and below, and opposite. The only situation at all like it is the mythical dwelling of one of the Children of the Mist, pointed out to the tourist in the Highlands as he looks up, half shudderingly, on his passage through the gloomy Glencoe. The house of Mar Sâba is far more like a fortress than a convent, and its monks still adopt many of the precautions of a state of siege. No woman and no Bedouin is permitted to cross its threshold, and our little party was inspected minutely from a carefully guarded loophole while our credentials were read, and before the narrow and ponderous iron door turned slowly on its hinges, and we were permitted to enter. We found ourselves in a small court-yard, strongly guarded, and were conducted subsequently over a wilderness of cells, refectories, flat roofs, hospital wards, chapels, and ancient cells. Some were mere natural caves, others were holes scooped by hand out of the solid rock, and others, again, such as the church, with its enormous buttresses, dome, and clock-turret, were elaborate specimens of ornate architecture. On looking out there was nothing but an enormous chasm to be seen, and it seemed as if we were at the end of the world. The monks looked dazed and feeble-minded, as if the utter solitude and gloomy grandeur had been too much for their minds, though the one who conducted us round was, perhaps from frequent performance of similar duties as guest-master, both garrulous and bland. From a small open terrace, about the size of a hearth-rug, we looked to right and left, up and down the awful space below us, while our host, uttering a peculiarly shrill cry, brought what looked like a grey mouse from its hiding-place in the rocks. The

mouse was a fox, which looked up cunningly for the bread thrown to him, and the good father explained, that thus feeding the wild foxes and jackals of the ravine formed the chief amusement of his leisure. We had much talk concerning the holy St. Sabas, the founder of the convent, a native of Cappadocia, who flourished in the fifth century, and, by his reputation for extraordinary sanctity, drew thousands after him into this dreary glen. The precipice opposite to us is riddled with holes, each of which was once the lair, not of a wild beast, but of a recluse, who believed himself to be serving God by leading a life of useless solitude. There are no pathways or other modes of approach to these very ineligible residences. They are sheer holes in an upright wall, and our monk laid quite an unctuous stress on the statement that those who lived and died there were let down severally in baskets, and never afterwards returned to the upper world. Their only means of subsistence, he insisted, was the charity of the pilgrims who flocked hither from all parts of the world, and who let down contributions of bread and fruit, until a day came when the basket was not emptied, nor an answering pull given to the rope from above, and then the word went round that one more holy father had, after ten, or fifteen, or twenty years of death in life, departed finally, and that his late hole was ready for another tenant. We saw hundreds of these caves here, and next day in the rocky sides of Quarantania, known as the Mountain of the Temptation, and, as each of them represented a succession of empty lives, which had in their time been quoted as examples to the ignorant and credulous, we numbered them among the many shockingly melancholy sights of Palestine.

The past history and present surroundings of the convent are in accordance with its appearance, and justify its precautions and fortress look. It was attacked and conquered by the Persians in the seventh century, and its monks murdered; it was frequently stormed during the fierce struggles of the Crusaders, and it is now one of the richest convents in the Holy Land, with a church stocked with gold and silver ornaments, a valuable library, which includes rare manuscripts, and priceless relics in the shape of piled-up bones of murdered saints, in the very centre of a district infested by the wildest Bedouins. No wonder, then, that the monks keep a strict guard, and that the convent is made

as difficult of access as the original lion's den in which St. Sabas dwelt, and which was the germ of the entire building.

We rode from Mar Sâba to the Dead Sea along a road which becomes, as I have said, wilder and more rugged at every stage. The white-domed tomb, which the Mahomedans insist is that of Moses, and which is quoted triumphantly whenever the biblical statement as to the place of his sepulture being unknown is named, was the only building we saw. It crowns a distant hill, and Alee pointed it out whenever we came to a break in the tremendous natural walls which hemmed us in. The ridges and dried-up channels we traversed are dangerous, from the vantage points they furnish to the robber and assassin. Sometimes we found ourselves threading a narrow road, with lofty precipices on each side of it, which rose almost perpendicularly to the sky, and from the summit of which a marksman could have picked us off with certainty, or have disabled us by the simple process of hurling down a fragment of rock. At others, we came upon an open table-land, and our guard rode on to meet the wild figures which had been watching us from a safe ambush, and were now holding an ominous conference. These savage-looking Bedouins had some of them followed us or kept us in sight for miles, not making any sign, but taking short cuts, and by their superior knowledge of the country, doubling on us, and preparing, as it seemed, for parley or attack. Our guard always took the first opportunity of riding straight at them, and was in familiar conversation before they could recover from their surprise. He would explain that the Frank excellencies he had charge of were powerful, but good, and that he was personally responsible for their safety. The Bedouins looked dubious, but he named his father, their good friend, and his brother, who brought a party of travellers over this very ground a few weeks ago, and then called to us in a loud voice that these were good people, who wished that we might gain our homes in safety. Salutations were gravely exchanged, but no back-sheesh was given or asked for. Alee's fee to the guard included our black-mail to the wandering tribes, and though at one time we were in the centre of an encampment of fierce and hostile Bedouins who had crossed from the Moab side of the Jordan, and had to cross a plain where their camels were browsing by the thousand like sheep, we were never once molested.

For an hour after we have left the rocky

passes which guard the approaches to the plain of the Jordan we have been in sight of the Dead Sea, of the devious thread of dark green foliage marking the sacred river's course, and of the range of white and stony rock which limits the horizon. When we have bathed, and when Alee has poured the contents of the water bottles upon our heads and bodies to rid us of the rapidly incrusting slime, we start at a brisk canter over the plain for the pilgrims' bathing-place at the Jordan. We are on the ground on which Lot looked down, four thousand years ago, from the heights of Bethel, after the dispute between his and Abraham's herdsmen, when he "beheld all the plain of the Jordan, that it was well watered everywhere, before the Lord destroyed Sodom and Gomorrah, even as the garden of the Lord." There is little fertility now, the shrubs on the desolate plains have their leaves incrusting with salts; the surrounding cliffs are destitute of foliage, and the green trees which line the Jordan's banks are as a finely drawn out oasis in the wilderness. We all complain of sticky and uncomfortable sensations. The Dead Sea has left its mark upon us. The sulphurous sands and salts with which we are coated give a harsh and gritty feeling to the skin; the sun blazes down upon our heads with a fierceness to which all we have experienced in Egypt seems trivial, and the limestone rocks around, and the minute particles which float and quiver in the air, affect the eyesight painfully. Yonder tumble-down ruin marks the site of Jericho; that tower is shown as the house of Zaccheus; the clump close to us on the right, for which Alee and the guard are making, is the bathing-place; and here, oh joy! are the cool bubbling waters of the river seen through a thicket of tamarisk, agnus-castus, willow, and poplar, and looking honestly muddy and turbid. We have had enough of the baleful beauty of waters which are at once clear and foul; it is a relief to find the Jordan (which is, hereabouts, not more than sixty feet wide) of a yellowish muddy hue, with soft, thick, chocolate-coloured soil mingling with its sandy shelving banks. The bath we indulge in now is delicious.

Carpets, table-cloth, cold fowls, wine, and bread, were all laid out temptingly under the trees when we emerged from the thicket, cool and refreshed after our delightful bath; and it was not until evening had commenced to throw its shadows that we remounted our horses and resumed

our journey. We devoted the afternoon to reading aloud, to resting under the trees, to meditation and talk on this the culminating point of interest in our tour. We strolled through the thick, luxuriant wood which borders the swiftly flowing waters. We plucked leaves and cast them into the eddies, and watched them disappear. We filled with Jordan water the half-dozen or so of tin flasks, made for that purpose, which Alee's experience among Christian tourists had led him to purchase for us in Jerusalem. We brought away a young sapling or two, and some branches of trees, and we took Dean Stanley with us, as it were, as we read of his visit here with the Prince of Wales, and how the stream before us "was the one river in Palestine, sacred in its recollections, abundant in its waters; and yet, at the same time, the river not of cities, but of the wilderness; the scene of the preaching of those who dwelt not in king's palaces, nor wore soft clothing. On the banks of the rushing stream the multitudes gathered—the priests and scribes from Jerusalem, down the pass of Adummim; the publicans from Jericho on the south, and the lake of Gennesaret on the north; the soldiers on their way from Damascus to Petra; the peasants from Galilee, with one from Nazareth, through the opening of the plain of Esdraelon. The tall 'reeds' or canes in the jungle waved, 'shaken by the wind;' the pebbles of the bare clay hills lay around, to which the Baptist pointed as capable of being transformed into the children of Abraham; at their feet rushed the refreshing stream of the never-failing river. There," where we stood, "began that sacred rite which has since spread throughout the world, through the vast baptistries of the southern and Oriental churches, gradually dwindling to the little fountains of the north and west; the plunges beneath the water diminishing to the few drops which, by a wise exercise of Christian freedom, are now in most churches the sole representative of the full stream of the Descending River."

After many warnings from Alee and the guard as to the expediency of starting without further delay, if we wished to avoid danger from Bedouins by reaching our night's resting-place before dark, we resumed our journey, and, after a brisk ride of an hour and a half across the arid plain, arrived at Rhia (Jericho) and the tents. Rhia is a squalid village situated on the site of the ancient Gilgal, and we slept on the spot where the Israelites first pitched their tents

in the Land of Promise, "having rolled away the reproach of Egypt from off them." After dark, Arab villagers, who are inconceivably shameful and dirty, assembled round our tent-doors, and danced and sang before us for backsheesh, the women and men keeping in separate gangs. They were more degraded and repulsive than anything human we had yet seen, and in their shrieks and cries, their monotonous nasal choruses, their undisguised coarseness, and unpleasant gestures, suggested condemned spirits from some lower world, glorying in their wickedness and shame. These bestrong words, but a reference to Murray will show that I do not overstate the case against the dwellers in Rhia, who seem to have inherited the curse pronounced against their ancient forerunners, who succumbed to Joshua and the host of Israel. For "Jericho, the city of palms," "high and fenced up to heaven," stood here; though there is not a stone of it remaining, nor a single tree of the stately groves from which it gained its name. Some ruined sugar factories, which are said to date from the Crusades, are the oldest buildings near. So recently as 1838, a solitary palm-tree marked the forest's site; but we saw nothing but thorn and balsams as we gazed round the oasis of tangled shrubs and trees through which we had ridden. The view is refreshing and delightful, for the luxuriant greenwood continues up to the lofty range, in the centre of which is the Mountain of the Temptation. This green line follows the course of the stream of pure water, which bubbles from the rock to spread verdure and freshness in its track. We referred to our authorities, and ascending a huge mound of rubbish we examined the country around as easily as if it were an open map. We fully comprehended now the strategical importance of the city of Jericho to the Israelites in the first stage of the conquest of Palestine. It stood at the entrance of the main passes from the Jordan valley into the interior of the country, "the one to the south-west leading to Olivet, which commands the approach to Jerusalem; the other to the north-west, towards Michmash, which commands the approach to Ai and Bethel." It thus formed the key of Palestine to the invaders. In yonder romantic range of rugged limestone cliffs Joshua's spies took refuge, after leaving the house of Rahab; on this hill of Gilgal the Tabernacle was kept during years of conflict, and until it was removed to Shiloh;

here, Samuel and Saul met often; and here, too, Jericho was rebuilt. After this rebuilding Elijah and Elisha, and other prophets, flourished here; from yonder river banks the former disappeared, and there, where the foliage grows thicker, is the fountain which the latter healed, and which bears his name to this day. Through Jericho, as restored by the Romans, our Lord passed on his final journey to Jerusalem; and it was its palm groves and balsam gardens which Herod purchased from Cleopatra, and upon which he erected the dwellings whose luxury and magnificence became proverbial. We visited mound after mound of rubbish as we talked over these things, and found many traces of the work performed by Captain Warren and his staff on behalf of the Palestine Exploration Fund.

Next morning we rode from Jericho up to Jerusalem in five hours, by passes which have been infested by banditti from the time of the Good Samaritan downwards, and we saw and heard more of the usefulness and importance of labours which have impressed us strongly, ever since we set foot in the Holy Land. I leave it to others to point out the urgent needs which the Palestine Exploration Fund is so well calculated to supply, to explain its objects, and detail its progress. I content myself with testifying to what we actually saw of its heavy and conscientious work. This is so manifest and important, that one heard of labours being suspended and circumscribed, for want of funds, with absolute pain. If it be remembered that "many of the ancient and peculiar customs of Palestine are fast vanishing before the increasing tide of western manners, and in a short time the exact meaning of many things which find their correspondences in the Bible will have perished," and that our information respecting the geology, the botany, the zoology, and the meteorology of the Holy Land is still most imperfect, such work as we saw in progress should be felt as a necessity by a Bible-loving nation. Palestine is not larger than Wales, and the city of Jerusalem would stand in Hyde Park, so that, the half-contemptuous permission of the Turkish government having been obtained, there should be no bar to the complete exploration of both. The urgent need is for means. Scholars and men of science, reverent, accomplished, indefatigable, are eager to resume and extend researches from which so much is to be hoped; and as we left the City of Sorrows, where the Crescent flaunts above the

Cross, and departed from the degraded Land of Promise, where the Infidel reigns supreme, our strongest feeling was one of hope that the Christian men and women of England would not inflict an additional blow upon this fallen region, by crying "Hold!" to work which has a broader human interest than aught which has transpired in Judæa since the days of our Lord. Even now, when the traveller there is at every disadvantage—when he is compelled to see through a glass darkly—what a flood of light his pilgrimage throws upon the most familiar passages in his Bible! He finds new meanings. He discerns beauties and analogies previously hidden. But bring him face to face with the buried and neglected treasures of that wondrous land, give him the clear pure rays for which the representatives of the Exploration Fund are striving, and a new era will commence for Christendom, for the sacred story will be illuminated with a radiance which will shine throughout the world, and make all preceding commentaries seem dull and cold.

A YORKSHIRE COLONY.

WITHIN a few miles of Bradford stands an establishment which is unique in this country, and, I believe, in the world. This is Saltaire, the factory of Sir Titus Salt. I said factory, but colony is the better word, for surely a town containing four thousand inhabitants, a church, a cemetery, an infirmary, a noble mechanics' institute, a capital club, a large school for the children, and a huge refreshment-room, all instituted and carried on under regulations laid down by one who is at the same time the founder, the ruler, and the guiding spirit of the place, deserves the grander name.

I was told that I ought not to leave Bradford without seeing Saltaire, and having received a courteous reply to my request for permission not merely to see, but to describe, the establishment, I started off thither one bright autumnal morning by the little railway which runs from Bradford to Skipton, and on which Saltaire is the second station. Of the origin, rise, and progress of the place, I had heard something. I knew that the great speciality of the factory was the dealing with alpaca wool, which, though long favourably regarded as a fabric, and often experimented upon in the neighbourhood of Bradford, had never been successfully treated until Sir Titus, then Mr. Salt, a Bradford manu-

facturer in a not very large way, devoted himself to the question, and as Mr. James, in his most readable history of worsted manufactures, tell us, "finally overcame the difficulties of preparing and spinning alpaca wool so as to produce a true and even thread, and, by combining it with cotton warps, improved the manufacture so as to make it one of the staple industries of the kingdom." The experiment was so successful, and Mr. Salt's business so largely increased, that he found it expedient to draw together the work, which he was carrying on at two or three small factories in Bradford, into one large building, and entertaining, as he did, certain large-hearted, though thoroughly practical, views as to the mutual relation of master and servants, he determined upon founding the colony of Saltaire. Eighteen years ago this intention was carried out, and during the whole of that time, and up to the present hour, constant exertions have been made, not merely to extend and improve the business, but to ameliorate the bodily and mental condition of those by whom the business is carried on. It is only fair to say, from personal observations, that these exertions have in every way met with distinguished and well-merited success.

As without the factory the colony would never have been called into existence, our first attention shall be given to that establishment. The factory, which is admirably situated for purposes of commerce, between the Leeds and Liverpool canal, and the Bradford and Skipton railway, and is in close proximity to the river Aire, from which the water for the working is supplied, covers twelve acres of ground, is six stories high, five hundred and fifty feet long, fifty feet wide, and seventy-two feet high. The walls, which are of enormous thickness, are supported by arches on iron pillars; the roof is of cast iron, and the whole building is fire-proof. The various kinds of wool used here are alpaca, Botany, or Australian wool, Russian, and mohair. The Botany wool, the best of which comes from Van Diemen's Land, is softer and finer than any other. It arrives in bales of about seventy pounds weight, closely packed by hydraulic pressure. These bales are loosened by being heated, and the wool is then sorted, washed, and dried by heat, carded, and combed, and finally goes through the process of spinning and weaving. The wool, in its original state, is either black, brown, or grey, but it is capable of being dyed almost any colour in the dyeing-house, which

forms part of the premises. The weaving, combing, and carding machines are said to be as perfect as human ingenuity has hitherto devised, and, indeed, any one, however ignorant of mechanism, would be struck by an inspection of the weaving-room, which extends the whole length of the extensive buildings, where the eye gets dazed at the enormous perspective of machinery in motion, while the ear is deafened by its clang. In carrying out the various processes of manufacture, upwards of four thousand hands, men, women, and children, are employed. Nearly all of them reside on the premises, as it is called, that is to say, in the town lying adjacent to the works, which has been built expressly by Sir Titus Salt for his workmen. The neat stone houses are built in broad, well-paved, well-lighted streets, each called by the name of a member of the founder's family, and are let out at very moderate rents.

Across the road, and immediately opposite to the factory, stands the chapel, a handsome, substantial building, with a gilt spike surmounting its cupola, which gives it an odd and decidedly foreign appearance. The interior of this church—it has been built about ten years—is remarkably handsome; the roof is supported by splendid marble pillars, and the balustrades around the railed-off space, where in our church would be the altar (the worship at Saltaire is congregational), are of the same material. The building is warmed with hot-water pipes, and lighted with gas, and in its air of comfort contrasts pleasantly with the ordinary chapels to be found attached to public establishments. There is service twice a day, morning and evening, and the officiating minister, and the organist, who has a splendid instrument, are retained solely for the benefit of the Saltaire congregation. Adjoining the chapel is the very handsome marble mausoleum of the Salt family, which, two days previous to my visit, had received its second tenant. In the immediate neighbourhood is the dining-hall, an enormous room partitioned off into boxes on the old coffee-house model, and with extensive kitchens in its rear. The design of this establishment is, that, while the provisions are sold at the lowest possible rate, the affair should be self-supporting, and its frequenters should not find any loss of independence in patronising it. This feeling is frankly expressed on a large painted board, which also sets forth the remarkably low tariff. A plate of meat and potatoes can be had for twopence, and I

calculated that an elaborate meal, including soup, meat, vegetables, pudding, and lemonade, would not cost more than sixpence. It is one of the regulations that the provisions should be fresh every day, and with a view to this end, all that is unconsumed during the day is sold in the evening at a very low price to the poorer members of the community. It is to be noted that neither beer nor spirituous liquors are permitted to be sold here.

The colony has also its baths and wash-houses, on an elaborate scale. A large room on the ground floor is fitted up with the usual apparatus of coppers and tubs, and contains a fine wringing machine which, worked by steam, makes more than one hundred and fifty revolutions per minute. There are two different classes of baths, both being decidedly comfortable, and one almost luxurious. In the first class, where the dressing-rooms are as well-fitted and furnished as in any London establishment, the price of a warm bath is sixpence, of a cold bath threepence. There is also a Turkish bath, which, as I was told, is extensively patronised by the operatives.

Proceeding by the bridge which crosses the railway, and ascending the main street of the little town, we came upon a large building in course of erection. This building, which, when completed, will have cost twenty thousand pounds, is a mechanics' institute, or, as Sir Titus Salt more wisely chooses to call it, the Working Men's Club of Saltaire. It will contain a library and reading-room, various class-rooms, two lecture-halls, the larger to contain seven hundred, the smaller one hundred and fifty persons, while the larger portion of the basement will be set aside as a gymnasium. The handsome buildings immediately opposite are the schools for the children of the colonists—one for boys, the other for girls—large, lofty, well-ventilated rooms, with spacious playing-yards attached. Threepence per week per head is all that a parent is called upon to pay to provide his children with an excellent education, while there is what the Germans call a kinder garten, or nursery school, to which a mother can send her smallest encumbrance, with the knowledge that it is well looked after, while she herself pursues her work.

We have seen how the children are taught and reared, and how admirably the bodily and mental welfare of the adult population is looked after at Saltaire. Let us now see what provision is made for

sickness and old age, those dread visitants whose approach is not to be averted even from this happy colony. All that can be done is to soften the rigour of their attacks; and that this has been done in the most considerate manner is at once proved to us. This solid block of building standing by itself is the infirmary, and the door is opened by a neatly dressed matron, the mere sight of whose bright, cheerful face, the mere sound of whose soft, clear voice, must be beneficial to an invalid. Here is the surgery and dispensary, fitted and furnished in quite a nautical manner as regards the economy of its space and the way in which every available inch of wall and cupboard has been made use of; here is the operating-room, with that horrible expanding couch, which is common to all such places. Up-stairs are what we should call the wards, but what are really the brightest and most cheerful little apartments for the patients. At the head of each bedstead is the usual official certificate of the case and dietary table, a bell to summon the nurse, and a couple of strong ropes and pulleys pendent from the ceiling, to aid the patient in raising himself in bed. I noticed that the books on the shelves adjacent to the beds were not of the usual sombre and somniferous character, that the walls were covered with pictures of a much higher order than is usual in such places, and that the illuminated texts hanging here and there were calculated to inculcate hope, rather than terror. Throughout the whole place cleanliness, cheerfulness, and order reigned supreme, nor can I fancy a more comfortable home in illness, or one affording a better chance for speedy recovery, than the infirmary at Saltaire. As we passed out my guide noticed as a novelty an elaborate invalid's bath-chair, and the nurse told us that one of Sir Titus Salt's sons had just had it sent down from London for the use of the patients when convalescent.

A little higher up, in the best situation on the crest of the hill, stand six houses, inhabited by the widows of those who have died in the Saltaire service. The houses consist of four rooms, with kitchen, scullery, &c., and the residents not merely live rent-free, but are provided with furniture, and receive a weekly allowance proportionate to the size of their families. Here, as in every other portion of the colony, it is expected that those who are thus helped should also help themselves, even if they can only do so by showing their obedience

to the regulations, and by their observance of cleanliness and order in their households.

As I left Saltaire, the factory-bell was clanging, and the streets were filled with the "hands" returning to their work; the women with their kerchiefs round their heads; the men dressed in long, light blue smock-frocks; the children running in and out amongst them, and making the pavement echo with the rough music of their clogs. All looked prosperous and happy, and so properly do the colonists appreciate their good fortune, that the policemen, themselves colonists, are necessarily the least employed portion of the community.

THE DOCTOR'S MIXTURE.

BOOK III.

CHAPTER XXX. RESCUE.

THE Red Lion at Westcup was an old-fashioned family inn, which the county families patronised. On this night it was pretty full, for a certain Mrs. Dowlais was giving a fancy ball. As Katey drove up she already saw a crowd at the door, while fantastic figures passed through it, amid derision and admiration, to get to their waiting carriages. In a moment Captain Montague was beside her. "Just a minute too late," he said. "They are coming out. I could not get a word with her." And the next moment they saw a brilliant trio emerge from the door, and come through the light: an officer of the guard in the days of Charles the Second—his crimson coat all crossed and braided with gold, boots, and flowing wig; a poor insipid-looking lady, in a dress that seemed no fancy costume at all; while on the guardsman's arm leaned a beautiful Irish Colleen Bawn, in a scarlet cloak and hood, the shortest petticoats, and altogether so dainty and piquant a figure, that the crowd looked on with admiration. The blushing Polly was beside herself, as her sister saw, with delight and pride.

Too late, then; what was to be done now? But Captain Montague was equal to the occasion. "We will follow them to the ball," he said. "You can wait in the carriage, and I will go in."

The ball was given at a showy spick-and-span mansion, a little way beyond the town, with greenhouses and gardens illuminated, and a great building of canvas and wood erected, and lit up with Chinese lanterns and devices. It was a sumptuous affair, carried out with the lavish magnifi-

cence of those opulent districts—band from London, dresses from London, decorations from London, supper and wines from London. It was scarcely wonderful that our unsophisticated Polly was dazzled by the enchantment.

The night wore on till twelve, when the captain of Charles the Second's guard came to claim her for a dance. When that was over, he took her away to explore the gardens and fairy bowers.

"Now, tell me frankly," he asked, "do you think I look well in this dress?"

Our Polly looked at him askance, then on the ground.

"Why should I tell you," she said, "what you know very well?"

"What! but you wouldn't pay me a compliment, that I know."

"Yes, I would," said she, stoutly; "and you deserve it, for procuring me such a delightful evening."

"And you are not displeased with me?"

"Displeased! Oh! what nonsense, Captain Molyneux. I shall never forget it."

"Exactly," said he. "You know I told you when you began by hating me, that you would finish by—well, by liking me."

Polly tossed her head. "Well, I don't mind telling you that you have greatly improved—that you have behaved much better of late."

"It is very good of you to say so," he answered; "but you don't know me yet; and how I have never had a chance—or a fair chance. You don't know what I would have been. But there are people who do not understand me, and whom I do not understand, which is my fault, no doubt—I am sure it is."

"No, no," said Polly, eagerly, quite affected at this generous self-reproach; "indeed it is not. The fact is, I was so hasty, for I was told so much, and warned so much about you—"

"Oh! I know—that's a matter of course. And shall I tell you now what made me first think of you with a little interest?—why, because simply I heard a good deal about you—that you were smart, and sharp, and wicked."

"Who could have said so?" Polly exclaimed, her eyes sparkling.

"Oh! people who were interested in getting me to believe it. From the first I felt there was a common link of sympathy between us—that in both our families we were not understood, and that both our families had set themselves to hinder all our pleasures and amusements."

"Oh! yes," said Polly, eagerly. "But

it couldn't have been Peter or Katey. I know Katey has turned against me lately, and Peter treats me like a child. But I don't so much blame him. But they shan't have their way, as I showed them to-night, locking me up like a little school-girl."

"It was an insult," said Mr. Molyneux, "to one of your position and your beauty. Yes, I say so—it is notorious! You are the most beautiful girl—and you know it—not in this wretched place, but in England. I have never seen any one to compare with you!"

"Oh, for shame!" said our poor foolish Polly, very piteously. "You are making fun of me, I know."

This was the only shape of the protest that she made; for she felt a new and peculiar thrill of pleasure at the warmth and energy of these compliments.

"Yes," he went on, "it is perfect oppression, and I admire your spirit—you, the jewel of your family, what they ought to be proud of, to be treated in such a way! Every one has been remarking it, and feeling for you."

"Have they?" asked Polly. "No?"

"Your father is so engrossed in his plots and schemes, he doesn't care for you or value you. He has got some low fellow—perhaps that Morrison—to marry you to; I know he has. You are to be used just to help on his interests. Why, the greatest lord in the land ought to be proud to get you."

"No, no," said Polly, smiling and pouting; "indeed, you know they wouldn't. But as for Peter and Katey, I have suspected something; but they won't find me such a child, I can tell them."

"How superb you are this night—this moment!" he said. "I tell you what, my dear child, this must not be allowed to go on. Come down here—this romantic garden," he added, drawing her with him; "every one about us here will be listening, and I have much to say to you. Look! can you put confidence in me? Do you trust me? for you will have to do it now."

A little scared, Polly looked at him; but she felt a sort of helpless and overpowered feeling coming over her.

"I mean," he added, hastily, "you do not hate me still—you assured me of that—"

"Oh! indeed I don't; you are my true friend, I believe."

"Well, listen: she has gone home"—he did not like to say Mrs. Molyneux—"you know who I mean."

Polly gave a little cry. "What, gone away and left me here?"

"Oh! yes; some of her meagrimms and headaches. But listen to my plans for you. I am always thinking of you—I mean of your interests. This life of tyranny and oppression must not go on; you must not be sacrificed in this way—your precious health, precious self, hopes, and prospects. They are your enemies, or, what is the same thing, do not care for you. You don't know the plots that are hatching about you. You must trust your friends—it is your only chance."

Piteously entreating, really frightened, fluttered, agitated, a poor foolish little bird, Polly began to think herself an unhappy, persecuted heroine.

"What *am* I to do?" she exclaimed, passionately.

"Why, trust in me—in us, your true friends!" he said, hurriedly. You must leave these people, who do not care for you. You must be made happy, treated tenderly, by those who love you. You must give them up."

"What! Peter and Katey? And how can I do that? Ah! What does all this mean?"

"You are being sacrificed. Why, I know men in town, marquises and dukes, who if they once saw you, would give their lives to win you!"

"Oh! indeed," said Polly; "I would not care for that, unless it were one that I liked and really loved."

"There is one, then, that does! I will tell you of him now, if you like. Come, Polly, come with me, and let us leave this place at once. You shall live with us, *never* go back to them till they see you wealthy, titled, and magnificent—every one at your feet; and then they shall come imploring your pardon! Come at once!"

Bewildered, dazzled, feeling like a child—as she indeed was—to whom all indulgence must be extended, the unhappy Polly felt that she had lost the power of resistance. He was hurrying her along the gardens towards a gate that seemed to open on the road, when they were both suddenly confronted by Captain Montague.

"What!" said the latter, promptly, "going to win your wager?"

Captain Molyneux uttered something like an imprecation. "Get away out of this! Don't talk to me!"

But the presence of this third person roused Polly from the sort of dream in which, to do her all justice, she had been up to that moment.

"Wager?" she said, suddenly, shaking herself free. "What wager?"

"A wager that this gentleman made about you, Miss Findlater, at our mess-table."

"It's false!" said Captain Molyneux.

"It's true, and can be proved by a dozen who were present. But this is not the time to do it. I hear that Mrs. Molyneux has gone away; but there is a lady here who will take charge of you—your own sister!"

"Oh! I am miserable!" cried Polly, bursting into tears. "Where is she? Let me go to her. Oh! Captain Montague, take me to her."

"Certainly," said the other, gravely. "She is here close by, in the carriage."

Without another word he gave her his arm, turned round, and walked away. The other stood there completely baffled.

Nothing could exceed the tact of the former officer. "It was wrong of you, Miss Polly, to have gone to the ball with him; he is a low fellow, and not worthy to be a chaperon for you. It is hard that you should lose your evening, but your sister was a little uneasy about the suddenness of your expedition."

Here they were at the carriage door; he opened it, helped Polly in, shut it, talked a little at the door in his gayest way. It was surely what the Americans called "a very one-horse place;" so much so that he added, "I really think none of us will acknowledge that we have been there." The two sisters then drove away into the night.

CHAPTER XXXI. THE GRAND COUP.

WHILE these events were taking place, matters still more dramatic were going on at Leadersfort. As the night began to set in the sick man grew more restless and impatient; while about the house the various parties lay in wait watching eagerly—themselves uncertain and undisturbed, and in the belief that this night would end all. Mrs. Leader had gone in for a moment to her husband, and found him much calmer. His face was shrunk, and there was a strange, wistful expression over it. "I want to see her," he said, wearily. "Let her come and pray for me; and for God's sake give over this wrangling! Send her here at once."

The other doctor was present, so she made no objection, but left the room at once and sought the Doctor.

"He wishes to see your daughter. Would you tell her to go up? But she should not tire him."

"Of course not. She is in her room."

Mrs. Leader sent up to her room; but,

as we know, Katey could not be found. She then sent to look for her over the house, when one of her servants said that Mrs. Cecil Leader had ordered out the brougham, and had gone away into Tilston. Into Tilston!—left the house! A gleam of light came into Mrs. Leader's eyes. She rang for a confidential messenger of her own, despatched him into Tilston to find out why the brougham had not returned, and then hurried up-stairs.

The Doctor very soon had learned this piece of news. "Katey left the place! What did the woman mean by such cracked behaviour? Where *was* she?" he asked, rushing about from library and drawing-room to the kitchen even. No one could tell him anything, save that she had taken the brougham and gone into Tilston. "What infernal idiocy," asked the Doctor, "made her get such a thing into her head?" Certainly he was a poor persecuted fellow, to have to be carrying brains for every one of his family, who jointly or severally hadn't so much as an ounce of wit among them all. He was so worried and taken back by this unaccountable step, that though he felt it was dangerous to be absent at such a crisis, he could not resist setting off privately, and hurrying through the dark night into Tilston.

His own house he found completely deserted—the servant had gone to spend the evening with a friend; Polly's room seemed to be fastened from the inside, as he imagined, and after thundering and threatening for a long time, he could get no answer, and assumed it was that sulky child Polly in one of her fits; or else she was gone out to one of her friends. But Katey—where was Katey? He really felt a cold perspiration on his forehead, as he thought of the tricks that would be going on in his absence during these precious moments, each worth golden guineas! And then it was, as he turned from his own door, that the new reflection flashed upon him, that this very absence would be artfully and maliciously turned to their ruin! He was down at the hotel in a moment, and there learned from an ostler that the brougham had been seen to pass through, which was poor news indeed. "What on the face of earth was he to do?" If he was driven into hard lying and swearing for this, it must lie on that girl's conscience.

He posted back as hard as he could. Almost as he entered he met Mr. Randall Morrison entering, and just taking off his coat. "What did this mean?" thought

the Doctor, turning pale again. Mr. Morrison spoke to him with a quiet carelessness; but there was a confident assurance in his eye. The Doctor saw that he was eager to get away up-stairs to his sister.

He waited below in that room. The house very silent, the night hovering on that debatable ground between night and morning; now for half an hour, now for three-quarters. But they did not come to him. Suddenly he heard a step, and Mary Leader entered. She was struck by his worn, shrunk face, wizened almost with anxiety.

"What is going on, for Heaven's sake, Miss Mary? How is he—what are they at?"

"Very quiet, very quiet. The doctor thinks a turn may be coming, and has gone to bed. Mr. Macfarlane is sitting up with him. Mrs. Leader is in her room; she is worn-out, she says. Oh! but Katey, Katey! Why was she not here? He is so hurt, so wounded, so shocked at her desertion of him!"

"Heaven knows what's over us all to-night! She was fagged to death, I suppose. No wonder she wanted a little sleep under her own roof, away from all this racket. But—but—*she* is gone to bed?" asked the Doctor, with a strange wistfulness. "You're sure of that?"

"I suppose so," said Mary, coldly.

"Then I am not," said the Doctor, seizing her wrist earnestly. "No, nothing of the kind. She's awake, and plotting at this moment. I have had my suspicions the whole of this night, suspicions which are as much a certainty as the light of that candle, from the moment that she came down and offered us all the kiss of peace. People of her sort don't change, any more than you can wash the spot off a bulldog's eye. As for Katey, my dear Miss Mary, there's a story about that which can't be explained now; but she'll tell you herself in the morning. But I warn you there's some game up between those two, about your poor sick father, for whom it is vital—vital that he be kept quiet."

The Doctor spoke with extraordinary vehemence and earnestness. Mary listened with interest.

"Yes," she said quietly; "something of the same sort of suspicion occurred to me to-night, when she volunteered that reconciliation. But Katey, if it could be explained—that would be the true cure—for he said to me, 'You see, as soon as she got what she wanted, she did not think me worth attending to.'"

The Doctor gasped. "Your step-mother had been in two minutes before that, I'll swear!"

"Yes, she had," said Mary.

"Yes, she had!" he answered, savagely, "and put the words into his mouth. I tell you there's scheming and plotting going on to-night, and, Miss Mary, if you'll be guided by me, and not leave your poor father to be bullied out of his warm bed into eternity, we'll plot, too, in a defensive way, at least."

"Anything to protect and save him," said she. "What you say seems probable enough."

"Whist!" said the Doctor, putting his hand up to his ear cautiously.

They were at the door of the parlour opening into the hall, near the foot of a great well staircase, that went up to the roof. A flash of a candle came down suddenly.

"I'll come back again, and shut the door quietly. I'll take my shoes off and creep up-stairs to Katey's room, where you'll find me. I'm going home now, you understand." And in a louder voice the Doctor said: "It's getting fine again, and I'll have a quiet walk home. Good night, Miss Mary. He'll be better in the morning, never fear."

Mary Leader disliked heartily any kind of organised deceit, but on this eventful night her habitual steadiness was quite overcome. Overpowered, too, by the Doctor's almost impassioned warmth, she could make no protest, and turned to go up-stairs. The light had disappeared. A sort of conviction came upon her that this theory of the Doctor's was quite true, with a sort of just anger at the poor helpless father she so loved being harassed out of the world.

At this moment Doctor Speed, candle in hand, appeared at the end of a corridor, coming to cross the hall, and making for his room. He was yawning and very tired. "He will do very well, Miss Leader, if he only gets sleep to-night. It was most unfortunate about Mrs. Cecil; it should have been kept from him. However, when I left him, he had fallen into a doze which, if it keeps on, may do him a world of good. Good night, or good morning rather." And again yawning, the doctor, speculating how he must "be off" in the morning, and who would be up to hand him his hundred and fifty guineas, passed away down another corridor, and was lost to view.

"Yes," thought Mary, "Doctor Findlater was right." And she went to her own room, creeping along ever so softly.

After about a quarter of an hour, the Doctor tapped at the door, and stood there when she opened it, his shoes in his hands. He had come up the back stairs. "Come, Miss Mary," he said, "let us get down to Cecil's, one by one. I declare I am ashamed of myself for all this Guy Fawkes work; but what can one do in such a fix? I declare it's enough to agitate a man's nerves; and no one will make a handsomer almond than I will, if the datas prove fallacious."

They went along to Cecil's room, which was on the same floor as Mr. Leader's, only at the right wing of the house. A great balcony or verandah ran round the house, and this was in the Doctor's mind when he mentioned Cecil's room. Rich thick pile carpets ran round this corridor—a piece of Mrs. Leader's extravagance, but which favoured her enemy's movements in the most fortunate way. As the Doctor drew near the sick man's room, a strange cry seemed to pierce the door, with eager voices in low suppressed tones. The Doctor again caught Mary Leader by the wrist, made her listen a moment, then hurried away to Katey's room, softly closing the door. "They're at it," he said, in a whisper—"God forgive their night's work! Put this shawl round your head and shoulders, for the night's cold, and follow me."

He opened the French windows, and stepped out on the balcony. The noble park and stately trees lay sleeping beneath, and a great glare of light was shed out on the grass from the painted windows. The Doctor well knew that one of Mr. Leader's fancies was to have the shutters open, and plenty of light admitted. They crept along the balcony, and were at the window. The Doctor looked in first; they could hear the voices plainly. Then he drew Mary forward. There was no chance of their being seen. It was long before the two forgot the spectacle. The unhappy man, worn to a shadow, sitting up, Mrs. Leader supporting him, and talking slowly, her brother beside her, Macfarlane at the foot of the bed. They heard her quite plain.

"They are only trying to frighten you; you will get quite well, the doctor says so. It is part of this conspiracy to tell you the contrary. But tell him, Randall, about *her*—that woman for whom you did so much. Where do you think she went to-night? To a ball! Yes, to a ball. Randall tracked her—he has the name and address. That was what she gave you up for."

"Oh! how unkind of her, how cruel! You see there is no one I can trust—not

one! She left me here, not knowing but I might be dead when she came back."

"What did *she* care? She had got you to do what she wanted—she had made it all safe."

"How cruel!—how base!" he groaned. "But I don't believe it still—there is some mistake. She will come back and explain it. And so you roused me up to tell me this, and make me miserable? Go away, I tell you!"

"Yes, in one moment, dear. But won't you punish her? You wouldn't like to have her and her low father going about boasting of what they can make you do, no matter how they behave?"

"Well, in the morning, if you will all let me be alive, among you, we will talk of it then. Go away, for God's sake!"

Mrs. Leader looked at her brother.

"To tell you the truth," said the latter, slowly, "this is a thing that you ought not to put off in this fashion, and that we cannot let you put off in this way. Doctor Speed has spoken to you as plainly as he could." (Here Doctor Findlater saw Mrs. Leader turn away, and place the curtain between her face and her husband's!) "He has told you that the diseases under which you suffer are very serious, dangerous, and even fatal. It is a duty to tell you this plainly, and that it is no time for putting off serious matters."

"I don't believe all that," said the unhappy victim; "you do it to frighten me."

"Ask any of the doctors, there are three in the house. It is childish, and this cannot and must not be put off. See here, my dear Mr. Leader: I must tell you plainly you have committed a gross injustice to your wife, in letting yourself be pillaged by adventurers like these Findlaters. You have done a scandalous wrong, that the world will cry out against, and you must repair it now!"

"In the morning!—in the morning!" pleaded the unhappy man. "I am so weak—you are killing me! Don't—don't, I beg; it is not my act—I am not free!"

The two faces were looking in on the guilty party from the window. It was a horrid and ghastly picture: Mrs. Leader hiding away behind the curtain; the shrunk, worn, dying figure, propped up in the middle; Doctor Macfarlane holding the paper, while Randall guided the pen. The wild terror in that sick man's eyes seemed like madness. He fell back on his

pillow, while the other two, at a side-table, hastily wrote their names as witnesses.

Such was the scene that night at Leadersfort. Mary Leader several times had been about to beat impatiently on the window, but the Doctor held her back.

At six o'clock Doctor Speed was roused up to come to the bedside in all haste. The patient was sinking. The boat which had made such a weary and stormy passage was almost touching the bank. Mary Leader, excited, came rushing to meet him. The doctor saw at once how it was. Gradually the fatal word passed round, and they came gliding in to assist at the last awful spectacle. The eyes of the former barrister wandered round restlessly, and at last settled on one who had entered the latest. It was Katey. A smile of welcome appeared on his lips, and he attempted to stretch out his hand. Suddenly a look of terror came into his face. He tried to lift himself. "You will hate me," he murmured; "I did not mean it. I was weak and helpless, and you were not there. Why weren't you here?"

Katey, on her knees beside him, could only plead that she was obliged to go.

"Don't fatigue him," said Mrs. Leader, drawing nearer. The shrunk and shrivelled hands grasped at her, and Mary, stepping softly forward, placed Katey's in his. Already was the strange grey tone spreading over his face, the shadow perhaps of the transparent wing of the Destroyer. In a few minutes kind but firm hands were leading the weeping women from the room; and the poor barrister, whose wealth and estate had brought him only weariness and misery, was at last at rest.

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