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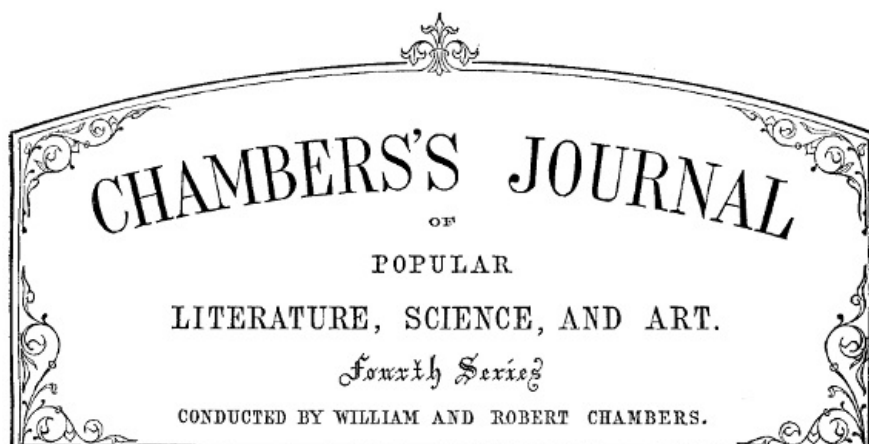
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**CHAMBERS'S JOURNAL  
OF  
POPULAR  
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## TO LIVE TO A HUNDRED.

THAT is what most people would like, if it could be easily managed. All know that they must throw off 'this mortal coil' some time, but there are innumerable and plausible reasons why they wish to avoid throwing it off as long as possible. They have important affairs on hand which require attention. They have children to educate and see out into the world. They are interested in certain public movements with which the newspapers are rife, and would like to see how these stirring events terminate. They are engaged in some important scientific investigations which they are anxious to complete. They have realised a small fortune, and would like to see it grow something larger, so that they might make a decent flourish with their bequests. And so on without end. They have often declared that the weather has become so bad that life is not worth having. But on second thoughts, when things are looking serious, they come to the conclusion that the weather may be endured, and that the world is not such a bad world after all. Dying, who speaks of dying? The idea of such a thing is ridiculous.

There is a clever book of old date full of pictorial illustrations called the *Dance of Death*. Each picture represents a pleasant scene in social life, into which Death, in the form of a skeleton, impertinently intrudes himself, and beckons a particular individual to come away; which individual, considerably surprised and disgusted at the summons, is obliged to go off, very much against his will. The moral suggested is the total unexpectedness of the visit—the uncertainty of human life. Such books amuse people. They laugh at seeing a self-complacent person sitting at a table stuffing and enjoying himself with good things, and who, on chancing to look a little aside, perceives to his consternation a skeleton bowing respectfully, and beckoning with its bony finger to walk off. He is wanted, and must march—not a moment to stay. The very glass just poured out must be left untasted. Very droll, very suggestive such pictures, only nobody is ever benefited by them. 'All men think all men mortal but themselves,' says the poet. Men perhaps do not exactly think so. But what comes pretty much to the same thing, they flatter themselves they will have a 'long day.' No doubt they will live a good while yet, and it is as well to be jolly in the meantime.

It is a curious fact, disclosed by physiologists who think deeply on the subject, that society is very much to blame for the comparative shortness of life. This was not well understood when the *Dance of Death* was written. It is understood now. Inquiries into the laws of health and disease, along with statistics, make it plain that premature decease is owing to a variety of preventable causes. We are gravely informed by Dr Farr, in his letter<sup>[1]</sup> to the Registrar-general of England, that the natural lifetime of man is a century! To die earlier than a hundred years of age is all a mistake. It is the fault of something or somebody or other that people die young. With a good constitution to start with, and due care in ordinary circumstances, life may be protracted to eighty, to ninety, or to a hundred. If that be what most people like, why don't they try? It is very certain, as is observable by the newspaper obituaries, that latterly many persons, whether they have tried or not, lived to be upwards of a hundred years of age. We have just seen a death reported at a hundred and six, and a month or two ago one at a hundred and ten. Some of these long-lived individuals were of a humble rank in life. One or two were parish paupers. Occasionally we hear of negroes in the United States dying at a hundred and ten or a hundred and twelve years old, whose early life was spent in slavery. Among the aristocracy, deaths are pretty frequently reported at about eighty or ninety, but rarely at a hundred and above it. From these circumstances it may be inferred that fine living does not particularly contribute to extreme longevity.

The number of children who die young is immense. Bad nursing, neglect, whooping-cough, croup, measles, scarlet fever, small-pox, dosing with soporifics, carry off a large proportion. Bad air in close stuffy dwellings, and insufficient food, likewise destroy great numbers of children, particularly in old ill-contrived towns. Only by a kind of good-luck and natural strength of fibre do they get beyond five years of age. That is the first clearance; after which ensue the casualties of youth, too often brought about by carelessness. Latterly, Death has played great havoc among young and old through new developments of what are called zymotic diseases; or in plain English, diseases which originate in the fermentation of putrefying substances. These diseases are by no means new. They were known in ancient times. But in our own day they have sprung into enormous vigour, through the influence of modern domestic arrangements; and generally speaking, the finer the houses the worse have matters grown.

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In his operations, Death has wonderfully potent auxiliaries in house-builders; or at least those who get up houses to sell regardless of sanitary arrangements. Pipes to carry off refuse are scamped, everything is scamped. The pipes are ill put together and badly laid; foul air, the result of festering fermentation, escapes into the dwelling. Diphtheria and typhoid fever are the probable consequence. Much that is curious has been written concerning these zymotic diseases. It is now generally believed that the poisonous gases arising from imperfect pipeage in houses consist intrinsically of fungoid germs, which are unconsciously swallowed by the luckless inhabitants of the houses so affected. Whether this Germ theory be correct or not, the result is the same. By inhaling the vitiated air, we drink a kind of poison, which produces the most fatal disorders. In our own small way, we could speak from experience of this bad pipeage system, which has obviously become one of the scandals of the age. It is enough for us to advise every purchaser of a house to look strictly to the condition of pipes and drains. If he cannot do it himself, let him procure the assistance of experts. What a thing to say of some modern improvements, that they have ended in giving us two of the greatest evils in life—foul air in our houses, and foul water to drink! One would almost think that these so-called improvements had been ingeniously devised in the interest of the undertakers.

People as we see are slain right and left by ailments which seize upon them insidiously when least expected. The weakest of course come off worst. This brings us to the fact that considerable numbers possess but a feeble stamina, and are unable to ward off disease, even with all the appliances of art. They come of a weakly parentage perhaps through several generations. Being by inheritance little better than an incarnation of beer and gin, they are absolutely born with a tendency to succumb to disorders which others would escape. Dr Farr makes the remark, that our very philanthropic schemes for rendering succour to the afflicted tend to raise crops of people of inferior organisation. 'The imbecile, the drunkard, the lunatic, the criminal, the idle, and all tainted natures, were once allowed to perish in fields, asylums, or jails, if they were not directly put to death; but these classes and their offspring now figure in large numbers in the population.'

From one cause and another, it is not surprising that so comparatively few reach extreme old age. The average of human life has been extended through the resources of modern science, but not to such an extent as might be expected, for the average still does not range higher than forty-five to fifty. Some reasons for this comparatively low average have been alluded to. To these may be added the frightful deterioration of health from intemperance. Drinking, once a fashionable vice, has become a prevalent evil in the lower departments of society, and the evil is conspicuously increased in proportion to an advancement in the gains of labour. Alcohol! In that single word we have no end of premature deaths accounted for. The most correctly logical definition, as far as we have seen, of the physical and mental ills inflicted through the agency of alcohol, is that given by Dr B. W. Richardson in his work on the *Diseases of Modern Life*. There can be no doubt that the reckless abuse of this stimulant, always growing the more reckless, as has been said, as means are increased for its indulgence, has a terrible effect on the increase of pauperism and death-rates. According to Dr Richardson, alcohol has a tendency to throw life off its balance—'A balance at the best of times finely set is broken in favour of death. A mental shock, a mechanical injury, an exposure to cold, a strain, a deprivation of food beyond the usual time of taking food;—any of these causes, and others similar, are sufficient to cause an organic wreck, which, left to its own fate, would soon break up from progressive internal failure of vital power.' Much that follows on this subject we commend to general attention—without, however, expecting that what the learned writer says will be of any practical avail.

Another cause for the undue shortening of life which has not been yet referred to, is the intense mental strain prevalent among literary men, artists, statesmen, judges, and some other classes. If not a new feature in society, this mental strain is at least more conspicuous than it was formerly, because the struggle to attain high rewards is greater, and more dependent on individual exertion than it seems to have been in past and less exacting times. In short, in derangement of the nervous system, leading to no end of functional derangements in the heart, stomach, and so on, in all which are found reasons why so many of our most eminent notabilities are removed ere they reach fourscore. They fall victims to a heedless, certainly unfortunate, overtaking of the brain. Medical men in high practice, though well aware of the dangers of professional exhaustion, are not always exempt from the charge of being careless of their own health. The wiser among them endeavour to limit their hours of work, and at the proper season retreat to the country, for the sake of invigorating rural sports. But for these precautions, the death-rate among London physicians would be very much greater than it is. The late Sir Henry Holland is known to have greatly lengthened his days by habitually making long autumnal tours over the globe; always returning invigorated for fresh work. The very common practice among people in business of taking a month's holiday at the sea-side, or some inland healthful resort—a practice immensely

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facilitated by railways and steamboats—has the same beneficial tendency. As regards the salutary results of checking the mental strain in literary labour, we could speak from a degree of personal experience. We have for the last forty years—whether in town or country, whether in winter or summer—never written a line after nine o'clock at night. When that hour strikes, the ink-glass is shut up, the pen and paper laid aside, and the mind is allowed to calm down before retiring to rest. The rule is peremptorily followed with the best consequences.

In the varied pressure of inexorable circumstances it may not be possible to be so extremely guarded. Lives are abruptly lost, the most precious in the community. He, however, who falls in the fair fight of life, though mistaken has been his eagerness, may be said to fall nobly. It is a considerably different thing when men shorten their days through luxurious indulgences, in wanton disregard of the rules essential to the preservation of bodily health. Up till fifty years of age, it perhaps signifies little how some of these rules are neglected, because the constitution originally vigorous resists or overcomes various deteriorating influences. At all events, there may be no immediate mischief. After fifty, and more particularly sixty, a change has taken place. The breathing, the digestive, the circulatory processes are less able to endure tear and wear. A little indiscretion may derange the whole machine, and bring it prematurely to a dead stop.

It is wonderful how much may be done to protract existence by the habitual restorative of sound sleep. Late hours, under mental strain, are of course incompatible with this solacement. On this topic Dr Richardson says it has been painful for him to trace the beginnings of pulmonary consumption to late hours at 'unearthly balls and evening parties,' by which rest is broken, and encroachments made on the constitution. But, he adds, 'If in middle age the habit of taking deficient and irregular sleep be still maintained, every source of depression, every latent form of disease, is quickened and intensified. The sleepless exhaustion allies itself with all other processes of exhaustion, or it kills imperceptibly, by a rapid introduction of premature old age, which leads directly to premature dissolution.' There, at once, is an explanation why many people die earlier than they ought to do. They violate the primary principle of taking a regular night's rest. If they sleep, it is disturbed. They dream all sorts of nonsense. That is to say, they do not

sleep soundly or for any useful purpose; for dreaming is nothing more than wild, imaginative notions passing through the brain while half sleeping or dozing. In dreaming, there is no proper or restorative rest.

It is a pity that Dr Richardson, as in the case of other medical writers, has refrained from stating that the practice of late dining, always growing later and later, to suit fashionable fancies, is quite incompatible with that tranquil and wholesome night's rest which contributes materially to a healthy and protracted old age. How can any one who inconsiderately sits eating and drinking till within an hour or two of midnight, so as to render refreshing sleep pretty nearly impossible, expect to reach eighty, ninety, or a hundred years of age? Narcotics are taken to procure the much-coveted sleep. They give no natural repose, besides otherwise doing harm. It is customary to say of sentiments of remorse that they 'murdered sleep.' So at least said Macbeth, and, as is known, he spoke from very unpleasant experience. But as things go, sleeplessness arises less from remorse and other mental affections than from physical causes connected with digestion. The stomach, to use a familiar phrase, is out of sorts. And in a vast number of cases it would be wonderful if it were otherwise. Just think of the habitual overtasking of the digestive functions and corresponding secretions, from the practice of late eating and drinking—late ceremonious dinners, which, from their tiresome sameness, their simpering platitudes, their dull insincerity, their waste of food, waste of time, and waste of health and comfort, can scarcely be said to claim a single redeeming feature. If that be called social intercourse, it is a downright sham—poor outcome indeed of the accumulated intelligence and inventiveness of the nineteenth century. One of the dangers of dining out in winter arises from exposure to cold and damp night-air. The excuse usually made is, that of being well wrapped up. But although that is right in its way, the fact is well known to medical practitioners that grievous mischief may be done in an instant of time. By a single gulp of cold air, or by a chill to the feet, in stepping from the door to a carriage, a deed may be done beyond the power of science to undo. Our belief is, that cold caught at late dinners and other late entertainments is a prolific source of disorders that prove fatal. With what a thrill of sorrow have we lately attended the funerals of aged and estimable persons who gave promise of living other ten or twenty years, but were said to have died after a three days' illness, in consequence of having one evening when they were out 'caught a little cold.'

It is tolerably evident that, setting aside the masses who die young and in middle life, from ailments that are difficult to be warded off, length of days is considerably dependent on individual effort as regards a graceful sacrifice to the rules of health. The explicit statement of Dr Farr, that the natural span of human life is a century, will to many appear startling. But calmly considered, a century is but a small fraction in the vast expanse of time. Years pass away imperceptibly. The man of seventy or eighty can hardly realise that so many years have slipped over his head. In his own condition he feels little to impress him with the fact. The past has vanished like a dream. The evidence of advanced years consists mainly in the recollection of events, recollection of places visited, recollection of the friends and acquaintances we have lost. The past is a vista strewn with memories, some agreeable, others saddening. We have worked our way as it were into a new world, yet with everything going on very much as it did long ago, *plus* a happy diminution in the number of Torturations.

The estimate formed of age ought not properly to depend on years. One man at seventy may be in constitution not older than another at forty-five or fifty. All depends on the original strength of frame, and the way it has been treated. Hence are seen lively old men, who, from their manners and activity, you would say were like men of thirty. The bloom on their cheeks, their tasteful toilet, their dancing, their singing, are a kind of marvel. The explanation of the phenomenon is, that besides having been careful as regards temperate habits and attention to air and exercise, they have all along cultivated a cheerful view of human affairs. 'A merry heart doeth good like a medicine, but grief drieth the bones.' They have studied that text to some practical purpose. At fifty, at sixty, at seventy, they have been steadily qualifying for a hundred, and it seems not unlikely (if kept free from worry) that they will reach that desirable epoch—at all events, under a moderate discount of ten per cent., they may get as far as ninety, and on the morning after their decease have something handsomely said of them in the newspapers.

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Keeping steadily in view Dr Farr's comforting view of the matter, we shall be glad if anything we have cheerfully ventured to suggest, has led people to reflect that with a reasonable degree of care they may have themselves to blame if they do not 'Live to a Hundred.'

W. C.

#### FOOTNOTES:

- [1] This letter is appended to the Supplement to the Thirty-fifth Annual Report concerning Births, Deaths, and Marriages in England, 1875.

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## THE LAST OF THE HADDONS.

### CHAPTER X.—MARIAN.

As I had expected, the neighbourhood through which we were driven did not appear to be inhabited by the most prosperous class of people. We presently found ourselves in Green Street; and when the cabman drew up before a retail shoemaker's shop, we saw at once that there could be no doubt about its being the place we wanted. The name of Pratt ran up and down, and across

the house, in every direction, backwards and forwards, and sideways and lengthways; to say nothing of a large blue boot swinging over the pavement, conveying the information that this was the veritable Pratt's, and there was no other in the three kingdoms who sold boots and shoes so good and cheap, and beautiful to behold, as did Jonathan Pratt. Telling the cabman to wait, I entered a sort of bower of boots and shoes (they hung all round the doorway, and were ticketed 'Great Bargains,' 'Alarming Sacrifices,' 'The Princesses' Favourite,' and so forth), closely followed by Lilian.

'I'll attend to you in half a moment, ladies,' said a stout, brisk, good-tempered-looking man, as he put some small shoes into a parcel, and counted out the change to a customer at the counter, adding to her: 'You've got the best of me again, Mrs Gooch, by a good threepence, that you have! There, take 'em away quick, before I change my mind!'

'Oh, you always say that, Mr Pratt,' laughed the good woman, gathering up her parcel and change, and pleasantly wishing him good-day.

Evidently Mr Pratt was a favourite with his customers. I afterwards heard that he was famous for his jokes and good-nature, as well as a keen eye to business.

'Now, ladies,' he went on, turning smilingly towards us, as the good woman left the shop, and rubbing his hands briskly together; 'here I am ready to go through it all again, though you ladies always get the best of me in a bargain, you know you do. Eh'— Falling back a little as Lilian put up her veil; and even in that somewhat obscured light seeing that she was very different from the generality of 'ladies' he had to deal with, he added: 'I beg your pardon, Miss, I'm sure. What may I have the pleasure of shewing you?' For Mr Pratt prided himself upon his ability to suit his manners to his customers.

'You are Mr Pratt?' she began hesitatingly.

'Yes, Miss; that's me for certain.'

Lilian looked towards me, and I said: 'Will you allow us to speak with Mrs Pratt? Our business is with her, if she will kindly see us for a few minutes.'

'Mrs Pratt! *To* be sure, ladies; *to* be sure. Please to step this way.' We followed him into a small back-shop; and after putting two chairs for us, and—I suppose from force of habit—placing two little squares of carpet at our feet, he opened a side-door, and called out: 'Mother, you're wanted.'

Lilian, who looked very white and agitated, slipped her hand into mine; I clasped it firmly, waiting not a little anxiously for her sake.

A slight little woman, with a gentle good face, and soft dark eyes, looking very neat in a clean lilac print gown and large white apron, came hesitatingly into the room. One glance at her shewed us that it was not she whom we were seeking. Though her slight figure made her perhaps appear younger than she really was, she could not have been much less than fifty. We were for the moment both too much absorbed in the one thought to speak; and after glancing timidly first towards her husband and then at us, she asked: 'Is it change wanted, Jonathan?'

'These ladies want to speak to you, Susan,' he replied, looking a little surprised at our silence.

Lilian flushed up, glancing pleadingly towards me again. It was certainly rather embarrassing. I was casting about in my mind to find some way of approaching the subject without committing ourselves, in the event of their not being in the secret, when fortunately Mr Pratt's attention was called towards the shop-door, where commenced a brisk patter of words with reference to some of the bargains. With this gentle-looking woman it would be much easier to say what we wanted to say than with her husband, more accustomed to gauge the worth of words. So I plucked up my courage, and began: 'We have come to you, Mrs Pratt, in the hope of obtaining some information'— I suddenly thought of new tactics, and said: 'Is the name of Farrar known to you?'

'Farrar!' She put her hand to her side, and sank down on to the nearest chair, gazing at me without a word.

Seeing that I was at anyrate so far correct as to be speaking to the right Mrs Pratt, I went on: 'Perhaps you know that Mr Farrar has been ill for some time?'

'Yes, Miss; I know that.'

'Do you also know that his illness terminated in death ten days ago?' I said, speaking slowly, and carefully separating my words, in order to in some measure break the shock; for though she was not the 'Marian' we were seeking, her agitation shewed me that they were in some way connected.

'Dead!' she murmured—'dead!' as she sat gazing at us, or rather at some vision which the words seemed to have called up before her mental eyes.

I thought it best now to go straight to the point, and said: 'Before his death, Mr Farrar expressed a wish that this packet should be delivered to the person to whom it is addressed; and therefore we thought it best to bring it ourselves to you, Mrs Pratt.'

She mechanically took it from my hand, looking down at it as though she were in a dream.

'But,' eagerly began Lilian, 'you see it is written above, "For Marian;" and before he died, dear papa told me'—

'You are Miss Farrar!' ejaculated Mrs Pratt, turning towards Lilian with a strange expression in

her eyes: a mixture of curiosity and surprise, it appeared to me.

'Yes; I am his daughter; and very anxious to obey his last request. He told me that I have a sister, and wished me to be good to her. He meant to provide for her, and his will was prepared; but his illness was very sudden at—the last, and the lawyer did not arrive in time.'

I had thought it only just to tell Lilian what Mr Markham said, and she eagerly caught at the idea that her father had intended to provide for the other.

Mrs Pratt murmured something about its being very kind of Mr Farrar; her eyes downcast, and hands fluttering about her apron-strings.

'We thought it best to bring this ourselves, Mrs Pratt, because we wish to be in communication with Marian,' I said. 'And of course you know where she is. You know her, do you not?'

'Yes, Miss,' replied Mrs Pratt. She sat very pale and still a few moments, and then went on slowly and hesitatingly: 'If you really wish to see her'—

Lilian very earnestly assured her that she did.

'Then will you please to come this way, ladies?' she whispered, still, I fancied, a little nervously and doubtfully.

We rose at once, and followed her into the passage, up a narrow staircase, and into a front-room on the first floor. One glance shewed me that this was very different from what might have been expected in Mrs Pratt's best room—different in the way of being very pretentious. It was in fact evidently intended to be considered a drawing-room, and was crowded with tawdry finery, which not even its exquisite cleanliness could make to look respectable. Gaudy furniture, gaudy curtains, gaudy vases, with quantities of artificial flowers; a round table spread with gaudily bound books, &c.—all looking in such strange contrast with Mrs Pratt herself in her homely simplicity.

'Will you tell us where to find my sister?' eagerly began Lilian, after a hasty glance around.

'Sister!' said Mrs Pratt. 'You are not ashamed to call her that; or—is it that you do not know?'

'I have guessed that—that her mother was to be pitied,' said Lilian in a low voice, a crimson flush suffusing her face.

'And you can still call her sister?'

'Yes.'

'God bless you, dear young lady! It's only the best and purest could say that. Let me—pray let me.'

And before Lilian could prevent her, Mrs Pratt sank on her knees and kissed the young girl's hands. It expressed all the more to me, because I judged that Mrs Pratt was not naturally so emotional as most people. She recovered herself quickly too. After turning away for a few moments towards the window, where she stood wiping her eyes, she was the same self-contained, quiet-looking, little woman we had first seen.

'Please forgive me, ladies; but, as you have guessed, I do know Marian Reed. Her poor mother was my only sister, and since her death, Marian has always lived with us. Mr Farrar has always paid very handsome for her; and she has been brought up like a—lady.' Mrs Pratt hesitated a little over the word, and added: 'I mean, compared with people like us—a deal better than my own little ones.'

To gain a little time for Lilian, I asked: 'How many children have you, Mrs Pratt?'

'We have seven, Miss; but I've a good husband; a better man than Jonathan doesn't breathe; and business is brisk; so we want for nothing.'

The latter part of her sentence was meant for a hint, I thought, and I was all the more favourably inclined towards her in consequence. At anyrate we were amongst honest people.

'Is—Marian in the house now?' inquired Lilian. 'May I see her?'

Once more I noticed the reluctance in Mrs Pratt's face, as she replied: 'Yes, Miss; I'll go and tell her.'

'No; please do not tell her; let me introduce myself.'

Mrs Pratt consented; and to be quite honest with us, did not leave the room. Standing at the open door, she called out: 'Miss Reed—Marian, dear!'

No reply.

'Marian, dear, will you please come down for a few minutes?'

'What for?' called out a voice from some upper chamber.

'Somebody wants to see you, dear.'

I heard a word which seemed very much like 'Bother!' and a sound as of a book thrown down. Then there was a somewhat heavy and leisurely tread descending the stairs.

'Well, what is it?'

A girl of about twenty or twenty-one years of age entered the room, looking as though she had been disturbed and resented it. At sight of her my heart sank. Lilian's sister! This underbred girl, arrayed in the latest style of elegance as interpreted by Islington. Everything about her was in

the extreme of penny-fashion-book style; the largest of chignons, the fluffiest of curls covering her forehead down to her eyebrows, the longest of ribbons streaming down her back, and the latest inventions in the way of imitation jewellery. I am bound to acknowledge that she was in her way good-looking; with plenty of dark hair, large round dark eyes, red (not pink) and white complexion, and good though large figure, and yet— Could any one in the world be more disappointing, as Lilian's sister?

She crossed the room, seated herself with a *dégagé* air in a lounging-chair, and playing with a bunch of trinkets, it was then the fashion to call charms, upon her watch-chain, she languidly inquired if we had come about the music lessons.

'Because I have almost made up my mind to engage a gentleman. I require something advanced, you know; and the gentleman who is organist at our church gives lessons to a select few, and'—

'Are you Marian?' asked Lilian, white and trembling.

'I am Miss Reed,' very stiffly returned that young lady.

'This young lady is Miss Farrar,' I put in, to help Lilian.

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'O indeed!' returned Miss Reed.

I saw that the name told her nothing. I know now that she had never been told her father's name.

With slowly gathering colour, Mrs Pratt now came to my assistance. 'Mr Farrar was the gentleman who—paid for your schooling and all that, Marian, dear—the quarterly allowance came from him.'

'And who was he?'

'Your father!' returned her aunt, in a low broken voice: 'and these ladies have come to tell us that he has been ill, and—and'—

'He is dead!' said Marian; taking note of our black clothes, and becoming as pale as one of her complexion could become.

'Come!' I thought, not a little relieved, 'she can feel.' But I very quickly found that I had been somewhat premature in giving her credit upon that account. It is possible to feel without the feeling being worth very much. I saw in what way she was touched, as she went on, with a little catch in her breath, looking from one to the other of us: 'What has he left me?'

We were silent; and putting the right construction upon our silence, she hurriedly added: 'You don't mean to say he hasn't left me anything, after'—

Without any further anxiety on the score of her feelings, I put in: 'Mr Farrar has left no will, Miss Reed; and all his property comes to this young lady—his daughter.'

'Then I say it is mean, and shameful—downright shameful! and'—

'Hush, Marian, pray; Marian, dear, you forget!' pleaded Mrs Pratt, laying her hand upon the girl's arm.

'Am I not his daughter too? Am I not to say a word if I am left a beggar, after being always led on to expect to be a lady? It *is* shameful; and I do not care who hears me say so!' Flashing a look of angry defiance at us.

Lilian sat gazing at her; in her sorrow and disappointment, utterly incapable of uttering a word. It had not occurred to her that she might find this kind of sister. She had probably never before been in contact with any one like Marian Reed, and indeed we had both of us expected to see a very different person from this. If she had been only poor—anything like the children of poor parents generally, there would have been some reason for hope. But now! I afterwards found that Mr Farrar's very liberal allowance had been expended entirely on Marian Reed herself, Mr Pratt very decidedly objecting to accept more than a fair remuneration for her board and lodging; and the command of so much money had fostered a natural vanity and love of dress, until she had become the fine lady before us.

'If you will only be good enough to allow me to explain, you will, I think, do Mr Farrar more justice, as well as spare his daughter, Miss Reed,' I said, in a tone which made her turn sharply towards me with a look and gesture which seemed to say: 'And who are you?'

Having succeeded so far as to quiet her, I went on: 'Mr Farrar's illness terminated rather suddenly at last, Miss Reed; and the lawyer who was summoned did not arrive in time for the will to be signed'—

'But he might have'—

I stopped her again. 'Mr Farrar did what he could in trusting his daughter to carry out his wishes; and you will find her only too anxious to do all that is right.'

I saw the round black eyes turn sharply and speculatively upon Lilian for a moment; then she replied, in a slightly mollified tone: 'So much depends upon what people consider right, you know.'

I saw that Lilian was battling against herself, and longed to say to my darling: 'Trust to your instinct, which is altogether against asking this girl to come to live with you. Whatever else you may do, do not yield to a false sentiment in this one thing.' Unfortunately (or fortunately; looking at the question from this distance of time, I am not really sure which I ought to write), Lilian did *not* obey her instinct. In her anxiety lest she should not carry out her father's wishes, she was



afraid to trust to her own feelings in the matter. When Marian a little impatiently asked:

'I should like to know what *you* call right?' Lilian replied in a low faltering voice:

'He wished me to be good to you; and I came to-day to ask you to live with me, and—be my sister—for—dear papa's sake. He has left a great deal of money, and quite intended you to share it.'

'That is,' I hastened to interpose, seeing the effect of the word 'share' upon the other—'Mr Farrar no doubt meant that the allowance which you have hitherto received should be continued to you, Miss Reed. I have reason to think something of that kind was to be done.'

'That would be very kind and generous. Wouldn't it, Marian, dear?' said Mrs Pratt.

'And' (I went on) 'perhaps you would prefer remaining with the friends who have been so good to you, and going on as before, Miss Reed?'

But Miss Reed very quickly gave us to understand that she did not prefer it; though Mrs Pratt put in a gentle word or two on my side: 'You have always been very comfortable with us, dear!'

Comfortable! That evidently would not be sufficient to satisfy Marian Reed any longer.

'I have been brought up as a young lady, aunt' (at present she had no doubts upon the point); 'and learned music, and French, and dancing, and all that; so papa must have intended me to come to live with him some time, and it seems only fair that my sister should ask me.—What's your name, dear? It seems funny my not knowing your name; doesn't it?'

'My name is Lilian.'

'Lilian! What a pretty name—quite *charmong!*'

I saw that it was to be; and that the only thing I could now do was to gain a little delay, so I said: 'Of course you will want a little time to prepare, Miss Reed.' She was about to protest; but I quietly went on: 'It will be necessary to procure mourning, and so forth.'

'O yes; I had forgotten that,' she replied, eyeing Lilian's black dress, nearly covered with crape. 'Of course I shall;' adding a little apologetically: 'You mustn't expect me to feel exactly the same as you do about it, you know. Of course I am very sorry, and all that; but I do not remember ever having seen papa; so it isn't to be expected that I can feel quite as much as though I had always known him.'

'No,' replied Lilian, with what I fancied to be a sigh of relief. She would have even jealously resented this stranger claiming the privilege to share her grief as well as her money. Had he not loved her—and had she not loved him? {119}

There was silence again for a few moments, which was broken by Marian Reed, the most self-possessed of any of us, for even I, the least interested, felt somewhat nonplussed by the aspect of affairs: 'It will take me a good week or ten days to get *distangy* mourning;' with a glance towards Lilian, as she gave that evidence of having learned French. 'Suppose we say ten days?'

'Very well,' replied Lilian, rising.

'But you haven't given me the address yet, you know. And you must excuse my reminding you that there's been nothing said about last quarter's remittance, which was due last week, and which we have been a great deal inconvenienced by not receiving.'

I hastened to put the packet into her hand. 'This was placed ready for you, Miss Reed; but for the address upon it we might not have found you; and I daresay you will find it correct.'

'O yes; no doubt;' taking it with a negligent air, in amusing contrast with her next words: 'And then there's the mourning, you know; that will have to be paid for; and good mourning is so expensive.'

'O yes; of course; I beg your pardon,' said Lilian, hurriedly taking out her pocket-book. 'This is the address; and— No; I find I have not enough money with me; but I will send you a cheque when I get home, if that will do. And of course you will like to make some little acknowledgment to the friends who have been always so kind to you.'

'Of course I should, if you send enough,' sharply replied Miss Reed.

The colour rose in Lilian's cheeks. 'I will send what you please.'

'Well, you couldn't say more than that, I'm sure,' graciously responded Miss Reed. 'But I'd rather leave it to you.'

'Will fifty pounds be enough?'

Mrs Pratt looked awe-struck; but her niece, who evidently prided herself upon *sang-froid*, calmly said: 'O yes; quite enough; thank you.'

'If you will let us know the day and train, we will drive to the station to meet you,' said Lilian, her voice sinking lower.

'Yes; I will write and tell you when I am ready, dear.' And after going through the ceremony of shaking hands and bidding us good-morning, Miss Reed sank languidly back into her seat again, leaving her aunt to shew us out.

As we reached the foot of the stairs, we could see into a side-room, the door of which was open, and observing some children sitting round a table, I asked: 'Are these your little ones, Mrs Pratt?'

'Yes, Miss. Would you like to walk in?'



I did wish to walk in, and availed myself of the invitation, notwithstanding poor Lilian's pleading look. She was, I knew, anxious to get away as quickly as possible. But I wanted to judge for myself as to whether the contrast between Mrs Pratt's children and their cousin was as great as between herself and that young lady. Seven children, whose ages seemed to range between about five and fifteen, were seated round a neatly spread table at dinner; and though the fare seemed of the homeliest, they were partaking it with quiet enjoyment under the supervision of an elder sister, a girl of about fifteen, pretty, and fresh, and neat-looking in her print frock. Altogether as refreshing a contrast to the cousin up-stairs as could well be conceived.

After one little shy blushing acknowledgment of our greeting, she attended to her business again.

'Don't stare at the ladies, Billy,' she whispered, guiding the spoonful of rice which, in his astonishment at seeing us, he was sending over his shoulder towards his mouth.

'She's quite a mother to them already,' said Mrs Pratt, brightening up wonderfully in the presence of her children. 'I can't find it in my heart to let her go to service until the others are grown up a bit. We can't spare Susy, can we, dears?'

This seemed to two or three of the younger ones to indicate that there had been some proposition to take her, and that we were the delinquents. But we hastened to reassure them, and tears were soon dried again, though two or three pairs of sharp little eyes kept watch over Susy.

How heartily I wished that this had been the sister we were seeking; this modest, good, unpretending Susy. I think the same thought was in Lilian's mind as she wistfully eyed her. The tinkling of a bell sounded in some back place, and Susy bade one of her little brothers: 'Run, Tommy, and tell Miss Reed dinner will soon be ready.'

Then I noticed a tray ready spread on a side-table; and in reply to my look of inquiry, Mrs Pratt explained: 'Miss Reed' (she was evidently more accustomed to call her Miss Reed than Marian) 'lives up-stairs, ladies, since she went for a year to boarding-school; she prefers it.'

'And so do we,' heartily put in her husband, entering at the moment. 'We bring our little ones up to work, ladies. *They* won't get two hundred a year without earning it, and I won't have fine notions put into their heads. I shall be satisfied, I tell them, if they grow up respectable, and not ashamed to look any one in the face. Miss Reed likes to be a fine lady, and we've got no right to object to that. I don't take any more from her than what pays for her lodging and keep—not a penny; and of course she's a right to do what she likes with the rest; but she never pleased me more than when she made up her mind to keep to her own rooms. Excuse me, ladies; but I've been accustomed to speak my mind, and somehow I always feel bound to say what my mind is, when Miss Reed's being talked about.'

Lilian was silent. I murmured something to the effect that I quite agreed with him as regarded making his children as much as possible independent of circumstances.

'Miss Reed's going away, father,' said Mrs Pratt. 'These ladies came to tell her that—the gentleman is dead.'

'Dead!'

'And this young lady is Miss Farrar, Jonathan. She has come to ask Marian to go and live with her.'

It took Mr Pratt some little time to get over the surprise; but I soon saw that it was not an altogether disagreeable one.

'It is so good of you, dear young lady,' murmured Mrs Pratt, who scarcely took her eyes from Lilian's face. 'So much more than Miss Reed could expect.' {120}

'You may well say that, mother!' ejaculated Mr Pratt. 'It *is* more than she could expect—a deal. Though, to tell the truth, I shan't be so very down-hearted about her going, for my part. We can let our rooms again, and— Well, as I said before, I don't want any of our young ones to grow up after Miss Reed's pattern.' At a murmured word from his wife, he put his hand for a moment on her shoulder. 'Mrs Pratt is more soft-hearted, and she naturally feels more for her sister's child than I do; but she's been a good deal put upon, and she'll see it's all for the best that Miss Reed should go, by-and-by. I can only say that she's kept true to her promise to her dying sister, and the girl can't say anything to the contrary. Her aunt's been a regular slave to her, always ready to cocker up one, who— Well, there, mother; I won't say any more: what's gone's past; and I hope Miss Reed will be satisfied now, that's all. I never denied but what she's a fine lass enough—to look at; and when she's got all she wants in the way of being fine enough, I daresay she'll be all right. Anyhow, she needn't be afraid of our shaming her. Business is good, and like to be; but if it wasn't, it would make no difference; we shall not run after her. If she likes to come and see her aunt sometimes, I think it would do her good, because, as I've said before, Mrs Pratt's soft-hearted about her; but even she wouldn't be soft-hearted enough to run after a girl who didn't want to see her.'

'Of course you will come to see us at Fairview, Mrs Pratt,' said Lilian, in her earnest unmistakably sincere way; 'and of course she will come often to see you.'

'One thing we needn't go far to see, Miss,' said Mr Pratt, who was evidently impressed in Lilian's favour. 'I know the real thing when I see it; and that's why the Brummagem up-stairs doesn't go down with me. There—there; I've done, mother. Good-day, ladies; and thank you kindly, for us.'

And after shaking hands with Mrs Pratt and her children, Lilian pressing her purse into Susy's hand, we took our departure, escorted to the cab by Mr Pratt.

## 'ONE SHILLING.'

ONE of the eighteenth-century poets exclaims in a burst of enthusiasm how 'happy is the man who, void of cares and strife, in silken purse or leathern pouch retains a Splendid Shilling.' Then, poor fellow, as if overcome with the prospect, he dwells on the various pleasures which the splendid shilling was able to realise. Had he lived exactly a hundred years later, his poem might have been ten times the length, for what a vast variety of things may be enjoyed or purchased for a shilling is now a matter of daily wonder. The penny still keeps its ground in small matters. So does the sixpence. But these inferior coins, as well as those of higher denominations, are nothing in point of popularity to the shilling. Looking to its growing importance, we would recommend every one to have always a shilling ready in the pocket. He will hardly walk a hundred yards in any busy thoroughfare without seeing how the shilling may be laid out to advantage. 'Price One Shilling,' 'Admission One Shilling,' stare us in the face in all directions.

'Price One Shilling' is very observable at the booksellers'. Shilling books crowd the railway book-stalls in profusion; not merely garish volumes of sensational fiction in gaudily printed covers, but standard works in good type on good paper. Gilt-edged leather-bound Bibles and Prayer-books; the plays of Shakspeare; the poems of Scott, Byron, Burns, Cowper; the novels and romances of Fielding, Smollett, Scott, Lytton, Cooper—the completeness of many of these shilling works is remarkable. Monthly magazines have in most part abandoned the old half-crown standard, and have come into the shilling circle. Shilling atlases of maps, useful for schools, are becoming plentiful. Stationery pays a like homage to the silver coin in the neatly arranged packets and boxes of paper and envelopes, the boxes of colours and of drawing instruments, the fitted writing-cases for emigrants and soldiers, the grosses of steel pens (reminding the older among us of the days when steel pens were charged a shilling each), the pen-knife with an ever-pointed pencil at one end, &c. Published music displays a similar tendency towards the shilling in collections, after the copyright sheets have had their day. The gems of an opera, with the words in two languages; the great symphonies of Beethoven; the charming *Lieder ohne Wörter* of Mendelssohn; the books of instruction for the chief musical instruments—all are made up into shilling worths to an extent that has attracted the attention of most of us.

Go on a leisurely ramble through the principal streets, and see how multifarious are the indications in the same direction. The shilling razor is now a really serviceable article, made to shave as well as to sell (the gross of green spectacles, bought by the Vicar of Wakefield's son Moses, were, as we all remember, made to sell only). Shilling telescopes are in the windows, as are shilling thermometers and shilling microscopes; shilling spectacles are to be had by those who need them, and shilling eyeglasses by fast gents who do not. The smallest retailed portions of some beverages are priced a shilling, as are the largest of others. A shilling, paid by a simpleton of either sex, purchases a mystic delineation of character from handwriting. When the verger or some other official has shewn you the architectural and monumental curiosities of a cathedral; or an old dame has escorted you through the ruins of an abbey or castle, telling her tale of marvel as she goes; or a domestic has taken you through the principal rooms of an old country mansion—a shilling is, more frequently than any other coin, the *honorarium* awarded. Shilling hat clubs, clothes clubs, coal clubs, goose clubs, watch clubs, &c. are rather plentiful in the metropolis—speculations in which working-men think they lay out their money to advantage; but do they? The shilling has been long used by the recruiting sergeant wherewith to secure fresh additions to the ranks. A shilling dinner, provided by a 'Restaurant Company, Limited,' had a struggle for existence some time back; but beef at tenpence a pound put an end to it. A shilling is (practically) the smallest cab fare. Oaths, till lately (we hope they are not so now), were a shilling each in some judicial proceedings, and, not unfrequently, dear at the price.

Nor are fine-art and professional investments any less within the influence of the mighty shilling. There are many varieties of the Shilling Art Union, in which persons do a little quiet lottery-gambling under the guise of art. Shilling lessons in various accomplishments are given by persons whose pecuniary means are not up to the level of their professional aspirations. A shillingworth of postage-stamps, if you believe the advertisers (which you had better not), will initiate you into 'a light and genteel employment.' Shilling photographs constitute quite a world in themselves in our shop windows; and it is amusing to see the impartiality with which princesses, bishops, swimming-men, pets of the ballet, poets, clergymen, criminals, tragic actresses, monastic brothers, acrobatic brothers, and opera stars are admitted. Shilling photographs are to be had so minute that a shilling microscope is necessary to render them visible. {121}

Little less general and varied is the announcement 'Admission One Shilling.' There may be select accommodation at higher terms in some instances, and 'back seats' at lower terms in others; but a shilling marks the most prevalent charge. We have pretty well outlived the shilling panoramas, dioramas, cosmoramas, and needlework exhibitions; nevertheless, a constantly increasing supply of other kinds tempts the public. The Royal Academy, the summer and winter exhibitions at the British Institution, the French Gallery, the German Gallery, several watercolour exhibitions, are each 'One Shilling;' as are likewise special pictures of note, and the collected works of particular artists. If we long for a little science made easy, a shilling will unlock the gates of the Polytechnic Institution, the Zoological Gardens, Westminster Aquarium, and many another place. Perhaps the best shillingworth is the Crystal Palace; but it is only necessary to glance down the advertising columns of the daily papers to see how varied are the temptations of a similar kind, all alike in

this if in no other particular—that a shilling secures admission to any and all. Shilling promenade concerts are quite notable; while classical and choral concerts are likewise brought within the same category. Shilling 'Entertainments,' as they are called—neither theatres nor operas, neither exhibitions nor concerts, but comprising something of two or more of these—are now so numerous amongst us that they cannot easily be counted: black (or blackened) minstrels, Psychos and other automata, conjurers, music-halls, monologues entertainments, Tom Thumbs, 'Two-headed Nightingales,' &c.

These characteristics of everyday life and its doings are to a considerable extent applicable to most of the great towns of England; but we are treating them in special relation to the widely stretching and ever-growing metropolis. And this leads us to draw attention to a circumstance which renders shilling entertainments and amusements more and more accessible every year. In days which some among us will remember, London attractions were available to few except those who for the time sojourned within its limit. No suburban railway trains, few suburban omnibuses, and still fewer stage-coaches, there was a deficiency in the means for bringing the public to the central regions of the metropolis, and of taking them home again when the day's pleasuring was ended. It is not too much to say that, for all practical purposes of locomotion, Kensington and Westbourne, Kennington and Walworth, Hackney and Stepney, Holloway and Kilburn, were farther out of town than Richmond and Croydon—nay, Windsor and Gravesend—are now. Saying nothing of omnibuses and cabs, we are within the truth in stating that a hundred railway stations are easily reached from the metropolis by trains starting at eleven or twelve o'clock at night at cheap fares. What is the consequence? The father of a family can arrange for wife and senior children (juniors of course included in the pantomime season) a visit from the near suburbs and the more distant environs, to places of interest in the metropolis; knowing that there will be the means of returning home after the enjoyments of the evening are ended. How this tells upon the shilling will be readily understood by those who know the prevalent prices of admission to public places.

May we not find a clue to the solution, at the Mint? We all know that it is more convenient to make our payments, so far as possible, in one coin than in two or more, let it be of gold, silver, or copper. Now, as a matter of ascertained fact, the Mint produces a larger number of shillings than of any other denomination of silver coin. For instance, in ten recent years, twenty-six million shillings were produced at the Mint, against seventeen million sixpences and nine million florins—the other silver coins being relatively few in number. Why it is that the Mint puts eighty-seven and a quarter grains of sterling silver into each and every shilling, and never deviates from that quantity (rigorously 87.27272 grains), we are not here called upon to inquire; but unquestionably the determination exerts some effect on prices, within the limit, at anyrate, of the matters discussed in the present article—intensified by the predominance of this particular kind of silver coin over others. If we were to abolish the shilling from our coinage, and to substitute the franc (worth about tenpence), there is much reason to believe that we should gradually change from 'Price One Shilling' to 'Price One Franc;' and the same with 'Admission' instead of 'Price.' Very likely we should receive less in quantity, less number or less dimensions, of articles or enjoyments included in each purchase; but this would be borne with more patience than a change in the opposite direction—in other words, it would be found more easy to adjust our dealings to the altered value of the coin, than to give the troublesome amount of one franc in silver *plus* twopence in copper or bronze to make up a shillingworth; for a dislike to 'bother' is prevalent with most of us. But how about 'Admission One Franc?' Should we obtain only five-sixths as much instruction or amusement as we now obtain; and if so, in what manner would the curtailment be carried into effect? Would the shilling gallery, for instance, share in the enjoyment of less splendour and less fun when it became a franc gallery? Would a franc concert-caterer give a smaller number of songs, and the Polytechnic give fewer dissolving views and scientific lectures on each evening?

A subject of much solicitude to the financial and commercial world just at present may, for aught we can tell, be wrapped up in this very problem. The price or value of pure or bullion silver has fallen materially. The purchasing power of (say) an ounce of silver is less than it was a year ago, as compared with gold and with general commodities; and perchance the amount of 'value received' may have to be readjusted to our friend the shilling in some way not at present perceptible.

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A question has been asked, What is the real or intrinsic value of a shilling? and a good question it is, like the late Sir Robert Peel's, 'What is a pound?' The matter seems simple, but it intimately involves many important considerations. So far as concerns the Mint, the government, or the state, the value of a shilling is honestly expressed; no profit is made on its manufacture; on the contrary, a certain sum has to be provided annually out of the general taxation of the country, to make up a small deficiency. The chemical and mechanical processes of coining cost so much, the unavoidable (though trifling) waste amounts to so much, the wear of the coin costs so much for recoining after a few years, and so much for putting in new silver to make up the deficiency from 'light weight;' and all these items swell the cost of the shilling to the Mint. If the coin were made much below its intrinsic value in pure silver, it would not pass on the continent; if above, it would be melted down as bullion; and thus the Mint or the state has many points to consider in the matter. A bronze penny pays its full expense of manufacture; a gold sovereign and a silver shilling do not. Whether, at the present time, when the Mint can buy silver bullion and old silver at a cheaper rate than was the case a few years ago, the silver coinage just now pays its own expenses, is a question on which possibly the Master of the Mint may have something to say in his next annual Report.

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## THE BIG TREES OF MARIPOSA.

M. LE BARON DE HÜBNER in his interesting work, *A Ramble Round the World*, gives an account of an excursion from San Francisco to the Yosemite Valley, in the Sierra Nevada, for the purpose of seeing what are known as the 'Big Trees of Mariposa.' It is a toilsome journey by stage-wagons with relays of horses, through a wild country, and the distance going and returning is four hundred and forty miles. The journey took place in June, when the weather was fine, as it generally is in California near the coast of the Pacific. At the *rancho* or farm establishment of a hospitable planter, the wheeled carriages could go no farther, and the party were provided with little Indian horses, harnessed and saddled in the Mexican fashion, to complete the excursion. There were now, however, only a few miles to be travelled.

The Big Trees of Mariposa, which are reported to be the most gigantic trees in the world, were discovered as lately as 1855. The stories told of their gigantic dimensions seemed almost incredible. It was represented that they exceeded in height the tallest church steeples; were in fact as high as the top of St Paul's in London, and that is three hundred and fifty-six feet, reckoning from the marble floor to the cross. Another circumstance that seemed surprising was that these marvellously tall trees grew in a valley among mountains, at a height of eight thousand feet above the level of the sea. Such a circumstance in itself conveys an impressive idea of the magnificent climate in California, it being difficult in any part of England to grow trees successfully at a greater elevation than a thousand feet above sea-level, and seldom at that. Reaching the spot where the large trees grew, the Baron and his companions began to observe various trees fallen on account of age or the force of the winds, while at the same time infant trees were springing spontaneously up, and which, after growing for hundreds of years, will perish in their turn. Of the trees generally, the Baron says:

'The Big Trees of Mariposa well deserve their world-spread reputation. A law lately passed, and voted unanimously by the legislature, shelters them both from speculation and from the devastation of the mining companies. Unfortunately, however, it cannot protect them from the incendiary fires of the Indians. But none of these trees can be cut down. There are more than four hundred, which, thanks to their diameter of more than thirty feet, their circumference of upwards of ninety feet, and their height of more than three hundred feet, are honoured with the appellation of the Big Trees. Some of them have lost their crown and been in part destroyed by fire, that scourge of Californian forests. Others, overthrown by tempests, are lying prostrate on the soil, and are already covered with those parasitic creeping plants which are ever ready to crop up round these giant corpses. One of these huge hollow trunks makes a natural tunnel. We rode through it in all its length on horseback without lowering our heads. Another, still standing and green, enables a horseman to enter it, turn round, and go out of it by the same opening. These two trees form the great attraction of the tourists. Like the Russian pilgrims in Palestine who have bathed in the Jordan, the tourists, after having passed on horseback through the tunnelly trunk of one of these trees and the interior of the other, strong in the consciousness of having done their duty, think of nothing but instant departure. The greater part of these trees are marked by the inscriptions of different celebrated persons. One of them bears the name of Ferdinand de Lesseps.

'The Big Trees, with their smooth, dead-red trunks and short horizontal branches, are of a coniferous race, well known in Europe. One sees specimens in all our botanical gardens and in most of the "pinetums" of private persons. The first discoverer, an Englishman, gave them the name, which has stuck to them in Europe, of *Wellingtonia*. This name, which was offensive to the Americans, was changed by them into *Sequoia gigantea*, after an Indian chief of Pennsylvania, who distinguished himself by his kindness to the whites and by his civilised habits. These *Sequoias* would have a far grander effect to the eye if they were isolated, instead of being crowded with other trees, many of which have attained to almost the same size. Without the help of a guide, it would be difficult, if not impossible, to distinguish them from one another. The great indefinable charm of this spot lies in the poetic beauty of the site and the extraordinary fecundity of nature.'

The *Wellingtonia gigantea*, or Mammoth pine, as it is sometimes called, is a tree perfectly hardy and of rapid growth. Its leaves resemble those of the *Arbor vitæ*. Introduced by seeds into Great Britain, it is grown successfully as an ornamental tree, though we have not yet had sufficient experience to say whether it will attain anything like the dimensions and height it does in California. We planted one in 1865, when it was about a foot high, and now it has attained a height of twelve to thirteen feet. It grows about a foot in the year. We watch its progress with considerable interest.

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## MRS PETRE.

### IN TWO CHAPTERS.—CHAPTER II.

'TWELVE hours afterwards Janet Heath was stunned and horrified to hear, from a strange source, that Mrs Petre was dead—had died in the middle of the night from an overdose of laudanum. Fortunately for Janet, the woman who lived next door to her cottage was possessed of great good

sense; and when Janet rushed into her house wildly denouncing Mrs Danton, Mrs Dixon said: "Just have a care what you say; if her heart is anything like her face, you'll have a slippery customer to deal with in Mrs Danton. There'll be an inquiry, and plenty chance to speak then."

'But Janet, though cautioned, went straight up to Hilton Lodge, did not pause to be announced, but walking into the dining-room, faced Mrs Danton, who, with an air half-defiant, half-cringing, said: "This is a sad business; isn't it?"

"Sad?" cried Janet; "shameful. How did it happen? How could it have happened?"

"An overdose of laudanum," returned Mrs Danton.

"Laudanum!" exclaimed Janet, a new light flashing across her. "What was that the doctor said to you yesterday about the laudanum? I did not hear your answer."

"You were not meant to hear my answer," responded Mrs Danton, who bringing her evil face upon a level with Janet's, and tapping her sharply on the shoulder, added: "You don't come here to censure me." Her look was so terrible, Janet said she felt her knees tremble beneath her; she involuntarily turned away whilst Mrs Danton added: "It is not my wish that Mr Aubrey Stanmore should be made acquainted with this event. I will communicate with Mrs Petre's friends. I warn you of my severest displeasure and vengeance if you inform him."

'The words fell blankly upon Janet's ears; she simply left the room and made her way up to the drawing-room, where lay all that was mortal of her poor old friend.

'Meanwhile the authorities came upon the scene; and now I must endeavour to be very explicit. You know no body can be buried without a certificate from the doctor as to the cause of death; and on this occasion Mrs Danton knew a coroner's inquest would be absolutely necessary. But in the meantime a letter was speeding up to the Aubrey Stanmores, written in wild excitement by Janet, simply stating that Mrs Petre was dead; that they said it was from an overdose of laudanum taken by herself; but added Janet: "I was with her half an hour before she is said to have taken it, and I never saw her calmer or more sensible. Pray, do something!" concluded Janet, "for all is not right."

'Mr Stanmore's first step was to proceed at once to his solicitor, an extremely worthy man, who, on hearing the circumstances, at once consented to start for Lynton, whither he was accompanied by both Aubrey and his wife. They judged it prudent, after seeing Janet, to go direct to the doctor's house, in order to ascertain particulars from him, as, from Aubrey's position with his aunt, it was not quite easy for them to go direct to her house now she was dead, when she had not received them there during her lifetime. How vividly did Aubrey now recall his last interview with her, when Mrs Danton was absent; how he had knelt down by her side and beseeched her to send her off, and in her place to install the faithful Janet. "When Arthur Dumaresque comes home," had been her feeble promise; and now, how true his words to his wife and Janet had turned out: "That woman will never let my aunt live until Arthur Dumaresque comes home."

'This doctor whom they were about to visit was a new importation to Lynton. He had obtained a fair share of practice, but it was more than doubtful how long he would continue to retain it, for neither his manner nor his appearance was in his favour. However, the Stanmores and Mr Westmoreland the lawyer merely knew that he had attended Mrs Petre; and it was simply to hear his account of the melancholy affair that they troubled him with a visit.

'Much to their amazement, nothing could have been more brusque or discourteous than Dr Harper's manner. He received them in the most extraordinary way, and flatly refused to be, as he called it, "interrogated" as to the circumstances of Mrs Petre's death.

"Had you ordered the laudanum?" asked Mr Westmoreland.

"No; I had not," he answered. "I knew nothing about it till I was sent for, and told to bring the stomach-pump."

"And how had she taken it?" pursued Mr Westmoreland. "Who bought it? Where was it got?"

"I tell you I am not going to be questioned; the inquiry will give you all particulars;" and without even the civility of a bow to the Stanmores, he ushered them out of his room.

'The police-office was the next place to be visited. There every question was answered with alacrity and politeness, and the following particulars given by the constable whose duty it was to ascertain the facts where such occurrences took place. The inquiry, he told them, was fixed for the following day. The jury were all summoned; and the coroner, at some inconvenience to himself, had consented, in order to accommodate the relatives of the late Mrs Petre, to allow it to take place at the house.

'It appeared that Mrs Danton had lodged the following statement with the constable: About ten minutes or a quarter of an hour after Janet Heath had left, the drawing-room bell rang violently; the housemaid—the old woman I have described—went to answer it; but before she could get up-stairs it pealed again. Mrs Petre was sitting in her chair when she entered, and said: "Send Danton up to me."

'Danton—who always raged at this abbreviation—accordingly went up-stairs; and on getting into the drawing-room, Mrs Petre exclaimed, holding out a large bottle: "See what I have done! I have emptied this bottle of laudanum. What effect will it have?"

"It will make you drowsy; you must keep awake," replied Danton.

'It was a bottle capable of holding four ounces of laudanum, which, according to Mrs Danton's testimony, Mrs Petre had herself bought a few days before, for the purpose, it was supposed, of applying to her rheumatic limbs.

'Mrs Petre, whose horror of death was well known, at once exhibited the greatest alarm. "Send for the doctor—send for the doctor!" was her entreaty; and Mrs Danton sent the housemaid—the old woman who was supposed to wait on Mrs Petre—off in the carriage, which happened to be at the door then; not direct to Dr Harper's house, but to *another patient's*, "to see if he was there;" at that house the housemaid lingered, and it was not until fully three-quarters of an hour had elapsed that Dr Harper reached Hilton Lodge with the stomach-pump. For that three-quarters of an hour surely a strict account would be required at the inquest.

'Mrs Petre lingered on until the middle of the night, by which time several of Mrs Danton's own relatives had arrived upon the scene—notably one who volunteered the information that previous to the old lady's death she had stood in readiness, handkerchief in hand, ready to tie up the poor old face.

'However, to be as brief as possible. The Stanmores were so completely convinced that there had been foul play, that, by dint of strenuous exertions, they succeeded in persuading the coroner to defer the inquest until the Monday. Janet must be called as a witness; and Mr Stanmore, as the nearest relative, declared that he must identify the body. Accordingly, the constable who had previously arranged with Mrs Danton for the immediate inquest, proceeded to the house; now anxious to elicit further particulars, and also to intimate to her the postponement. He wanted the second bottle—for Mrs Danton had stated the laudanum had been purchased in separate ones. That was not forthcoming. It had been broken or mislaid; so only one—a good-sized one without any label—was handed over to him.

'Upon informing her of the new arrangement, Mrs Danton started violently, but recovering herself, said to a relation of her own, in a half aside, but quite audibly: "I know who is at the bottom of this, but I shall know what to do."

'The constable then left; and Mr Stanmore meanwhile was not idle as regarded efforts to collect all the evidence he could relative to his aunt's death. The case appeared a very clear one to him. Mrs Danton had, if not *all* his aunt's bonds in her own name, at anyrate a sum of money in amount quite impossible to guess at. Mrs Petre had declared her intention to get rid of her, and Major Dumaresque was coming home shortly, when a proper account would no doubt be demanded; and with Mrs Petre's aid, all would have to be disgorged, and Mrs Danton would return to her old life of needy dependence, with only censure and disgrace attached to her. There was no lack of motive; and looking at the case in any light, nothing could seem more conclusive than it was.

'Monday soon came; and at eleven o'clock the coroner with his twelve jurymen assembled in the best parlour of the *Royal George*, amidst great excitement; the witnesses collected in an adjoining room; and after the body had been viewed by the jury and identified by Aubrey Stanmore, proceedings fairly began. It was a long low-roofed room, with a narrow table, at the head of which the coroner sat; close by him were the solicitors, one for the Stanmores, the other for Mrs Danton; on one side of the table were the jurymen; whilst at the end of it were standing a group of officials, a police inspector; and the summoning constable, whose duty it was to call the witnesses separately, and to hand them the Bible to kiss whilst the coroner rapidly read over the required oath.

'The Stanmores were in the waiting-room with Janet Heath, when in walked Mrs Danton, alone; her cadaverous face looking yellower and more repulsive than ever, her black eyes glancing from side to side, betraying a nervousness she evidently tried hard to conceal.

"Would she go out alone?" wondered Mrs Stanmore. "Would not the hand of the law be upon her, and the death of the poor old lady avenged?" Who could tell!

'But at last all was in readiness. Mrs Stanmore not being required as a witness, was ushered first into the room, and accommodated with a seat by the coroner. Aubrey was then called, merely to identify the body. It was that, of Mrs Petre his aunt. The last time he had seen her she was in good health. Her money matters were arranged by Mrs Danton, of whom she intended soon to get rid. And a host of other information quivered on his lips, when the coroner dismissed him.

'Then came the housemaid, Margaret Penn, who stated she was in Mrs Petre's service partly as nurse partly as housemaid. She knew Mrs Petre had bought the laudanum to rub her rheumatic limbs with. She had noticed Mrs Petre had taken a small quantity on the preceding night, and fearing danger, had carried the bottle down to Mrs Danton, who, uncorking and tasting it, had said: "Take it back and place it where you found it, so that Mrs Petre may not miss it;" accordingly she did so. She verified Mrs Danton's first statement to the constable, that soon after Janet's departure Mrs Petre's bell had rung twice; that on answering it, however, Mrs Petre had exhibited nothing unusual beyond a demand for "Danton." Danton had gone up, and soon afterwards called Margaret, telling her Mrs Petre had accidentally taken some laudanum, and desired her to go for the doctor. That was all she knew.

'The doctor's evidence was the next taken. He had merely attended Mrs Petre for a slight cold. He knew she had got some laudanum to rub her limbs with. She was an old lady, suffering from considerable depression of mind, and somewhat feeble in body. He had been called in to see her, having received a message to say she had taken an overdose of laudanum. He took the stomach-pump and applied it; but she was too far gone. No emetics had been administered previous to his arrival. The amount she had taken was not sufficient to act as its own emetic. She was slightly

conscious when he saw her, and gave him to understand that she had herself taken the dose. He did all he could for her; he considered she had died from narcotic poisoning.

'Then came—not the person from whom Mrs Petre was supposed to have bought the laudanum—but the partner in the establishment, who, strange to say, read his evidence from a paper he produced; eliciting thereby a disapproving remark from several of the jurymen, who truly said where only truth was to be told, there was no occasion for written papers. It was merely to state that Mrs Petre, or a lady whom he understood to be Mrs Petre, bought the laudanum in two separate quantities at his establishment. {125}

'Then came a surgeon who had made a postmortem examination. The deceased had died of narcotic poisoning. He went into various medical details of no interest, as the cause of death was clear; but one remark seemed to startle the jurymen, who listened with the most praiseworthy attention. The hands of the deceased were bruised and discoloured, and the little finger of the right hand blackened. This he accounted for by their having been "flecked" with a towel to try to keep deceased awake.

'Janet Heath was next called. Nothing in the world could have been more convincing or more conclusive than her evidence—the clear and artless manner in which she gave it—her open, honest grieved face, as she described her last interview with her mistress—detailing her own horror at hearing of the death, and depicting Mrs Petre's position with Danton; her penniless state; the neglect and unhappiness she suffered from, but how at length Mrs Petre seemed to have summoned up courage to dismiss her custodian, whose presence was anything but conducive to her comfort. She dwelt upon her last visit; upon Mrs Petre's remarks regarding Major Dumaresque's return; on her kindly mention of Mr and Mrs Aubrey Stanmore; in fact, nothing seemed wanting.

'Janet Heath was dismissed; and then came the witness, Mrs Selina Danton. A suppressed murmur ran round the room as she entered, ghastly pale, her great black eyes seeming almost to be starting out of her head; but she advanced boldly enough to the table—kissing the Holy Book audibly—took the oath, and amidst the profoundest silence, gave her evidence. She was a cousin of the deceased. She managed her affairs. Deceased was subject to fits of great depression. She was not quite unable to manage her money matters, but preferred deputing her to do so. Her will was in favour of Major Dumaresque. She had asked her for some money to buy the laudanum. She had given her three shillings. Margaret had mentioned she had touched the bottle; and she, the witness, had—never dreaming of the consequences—desired her to replace it.

"Did the witness think deceased had taken it accidentally, or did she think she had deliberately meant to destroy herself?"

'The witness answered that she most unhesitatingly, and before the corpse itself—a most unnecessary addition—could swear that deceased had deliberately taken the fatal draught, meaning to commit suicide. She then proceeded to state, that when deceased had first sent for her, she had said: "Danton, look here; I have taken all this;" pointing to the empty bottle. "*This* will tell you why."—"Here is my proof," concluded Mrs Danton, as with a theatrical gesture she waved in her hand a letter, which she began to read, and which was to the effect that the writer, Mrs Petre, was dying; that her life had been a most unhappy one. A few sentences, a signature and date, with superscription—"The Last Words of Mrs Petre."

"Is that Mrs Petre's handwriting?" asked the coroner. "Can you identify it?" holding it towards Mr Stanmore.

"I think it is—I believe it is," he answered, gazing earnestly at it.

"You *know* it is," almost shrieked Mrs Danton, glaring at him with the ferocity of a tigress.

"Silence—silence!" from the coroner.

'Aubrey's identification was enough for the coroner, who instantly, without any hesitation, proceeded to sum up for the jury, entirely in favour of Mrs Danton. The coroner's own mind was quite clear, and his bias equally obvious: the letter left not a shadow of doubt. The deliberation of the jury was brief, their verdict being, "Suicide whilst of unsound mind;" but they wished to be appended to their verdict a strong and severe censure upon Mrs Danton for not having removed the laudanum when she ought to have done it. The coroner, however, refused to append the censure, upon the plea that to do so would be equal to a criminal charge; and the proceedings terminated.

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'Of course,' continued Mr Langley, 'none of us was satisfied; and the conviction is clear upon my mind that Mrs Petre was simply murdered. If the coroner had summoned his constable, and asked him what account, in the first instance, Mrs Danton had given of the death, the discrepancy would have instantly suggested itself to an intelligent jury; but it appears to me that an inquest is merely to discover the cause of death, not the motives and circumstances surrounding it, which a police investigation would inevitably elicit.'

'Then what is the use of a coroner's inquest?' I asked, rather bewildered.

'That is a question you must excuse my answering,' he replied. 'Until they are differently conducted, I consider them a mere farce; for in this instance, those few lines, which no one saw Mrs Petre write, might have been written by her or might not; no one knew. They did not allude



to self-destruction; her own horror of death, and her anticipations of Major Dumaresque's return, combated the probability of her having voluntarily taken the dose. It is a mystery, and a mystery it is likely to remain; nor will it be the last, unless such occurrences are more closely inquired into.'

'And was the will wholly in Major Dumaresque's favour?' I asked. 'Did Danton benefit in no way pecuniarily by the death?'

'We thought not at first, for the will was wholly in Major Dumaresque's favour; but I had the curiosity to go and pay my shilling to see the document at Somerset House. It was written by Mrs Danton herself, and contained merely a vague bequeathment of all to the major, not stating any particulars. Mrs Danton had appointed herself co-executor with the major; it was witnessed by two servants; and the misspelt composition most tremulously signed by the poor old lady, whose pitiable condition at the time left her in no condition to be properly cognisant of her actions. My impression after reading it was, that there was far more than met the eye under Mrs Petre's death; but I know the Aubrey Stanmores did not gain much for their trouble, beyond the approbation of their conscience; for they found that right is not always might, and that justice is not always done, even when matters are investigated by the aid of a coroner's inquiry.

'And what has become of Mrs Danton?'

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'As you may imagine, she soon left the neighbourhood; and Hilton Lodge has not had another tenant since the mystery of Mrs Petre's death, which no one considered solved or satisfactorily accounted for by the Coroner's Inquest.'

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## THE MONTH:

### SCIENCE AND ARTS.

WHY should London have a monopoly of the museums carried on at the public expense? is a question which has been frequently asked; and at a meeting held in Birmingham it was recently repeated with good show of argument by the mayors of some of our chief provincial towns. The importance of galleries and museums for educational purposes is admitted. Much of science and of the arts may be learned through the eyes. There is in the British Museum and other establishments in London, a surplus of articles that could be turned to good uses in museums in country towns; and so application is to be made to the Commissioners of the Exhibition of 1851, for portions of the large balance—seven hundred and fifty thousand pounds remaining in their hands. The whole of the kingdom contributed towards the success of that Exhibition, and may therefore claim to participate in the available profits. There is a good show of reason in this argument, which it is to be hoped will have due consideration. An additional point is, that a museum when once started has a tendency to grow; for there are many people possessed of objects of nature or art who are disposed to give or bequeath them to an institution where they will be taken care of and appreciated.

In looking back on the weather that darkened the closing weeks of last year and the opening weeks of the present year, the rainfall is seen as the conspicuous phenomenon. As is shewn by observations made at Greenwich Observatory and other places, eleven inches of rain fell in about eight weeks. The annual rainfall in eastern England is about 26 inches: thus nearly half the quantity that should have been spread over twelve months was poured down in two. Taking the month of December by itself, the rainfall was the greatest for any month during twenty years. In London the quantity registered was 6.25 inches; at Selborne (White's Selborne) it was 9.77 inches; at Skipton (Yorkshire), 10.53 inches; at Bodmin (Cornwall), 12.69 inches; and at Seathwaite, in the Lake country, a notoriously rainy district, the December rainfall was 18.31 inches. The reader may well exclaim 'Prodigious!'

But it is well to remember that in the first nine months of 1876 there was a large deficiency of rain; the quantity as measured at Greenwich Observatory was not more than 13¾ inches, being 4½ inches less than the average extending over a period of sixty-one years. The time of greatest deficiency was from April to August: hence it may be said that there were large arrears to make up; and the means have been supplied by an unusual, and as yet inexplicable, flow of warm water and warm air towards our coasts from the Atlantic.

The floods, though wide-spread and distressing, were not so deep as the floods of 1875. But in this particular there appears to be a want of accurate measures; and a proposition has been made that a combined system of flood-marks for the whole country should be established. With these once in place, each bearing its proper date, there would be no difficulty in comparing the height of successive inundations. Perhaps this and other questions may be left to the Meteorological Office, which in all probability will be much increased in efficiency during the present session of parliament. The Committee appointed to inquire into the working of that useful office have reported in favour of an extension of its usefulness, including the scientific as well as the economical aspects of the question.

According to Dr Gilbert, the amount of ammonia that comes down with rain and 'minor aqueous deposits' varies from six and a half to ten pounds per acre in Western Europe. If the amount is in proportion to the rainfall the coming season should be fruitful. In connection with all this it is

worth remark that, so far as the returns are made up, the health of the nation was good in 1876. In the first quarter the death-rate was, omitting decimals, twenty-three per thousand, twenty in the second quarter, and nineteen in the third.

The Natural History Society of Montreal have published further particulars of the plague of locusts which in 1874 afflicted Manitoba and the North-west Territories. In that year the hungry swarms destroyed five million bushels of grain; in other words, they devoured the green plants that would have produced that quantity. This fact alone justifies the hostility with which the creatures are treated wherever they alight, and the endeavours made for their total extinction. According to Mr Dawson, a scientific observer, they consist of but a single species, *Caloptenus spretus*, having numerous parasitic enemies, besides birds, which devour them greedily. Their breeding-grounds are the vast unpeopled tracts between the one hundred and fourth and one hundred and eleventh meridians, and the forty-ninth to fifty-third parallels. Mr Dawson states that being on the high plains near White Mud River, he saw swarms of locusts on the wing 'at all altitudes, following no determinate direction, but sailing in circles, and crossing each other in flight. The greater number were hovering over the swamps or spots of luxuriant grass, or resting on the prairie. A slight breath of wind would induce them all to take wing, causing a noise like that of the distant sound of surf, or a gentle breeze among pine-trees. They appeared ill at ease, as if anxiously awaiting a favourable wind.' Their migration is not flight, for they have no intrinsic power of directing their course, but like a sailing-vessel, must depend on the wind for propulsion. Their fixed determination to travel in a certain direction, and the wonderful instinct which leads them to wait for a favourable wind, are pointed out by Mr Dawson as worthy of special remark. The favourable wind is of course that which blows towards the settlements and lands under cultivation. There is evidence that the young broods at times migrate from the settlements to the breeding-grounds of their parents: on which Mr Dawson says: 'It would be a fact surpassing in interest the journeys of birds of passage, if it should be found that the locust requires two generations to complete the normal cycle of its migration.' Evidently extirpation to be effectual must be on a great scale. One of the plans proposed is to prevent the burning of the prairies in the autumn, and to set them on fire in the spring, when the young locusts are hatched. Another plan is to suddenly burn a broad belt of country when it is known that swarms are approaching; but this applies only to the unsettled districts. Another is by planting of trees to create a rainfall and infuse damp into the climate: moisture being fatal to locust life. Coniferous trees especially appear to exert a protective effect. One of the districts of Manitoba has never been ravaged by locusts. It is separated by a belt of fir forest, which they have never been known to cross.

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From a paper read before the Helvetic Society of Science at Basel we learn that the fever districts of Switzerland are the valley of the Rhone in its middle course between Martigny and Brieg, and some parts of the canton Tessin. Owing to the large extent of marshes in these districts, malaria and intermittent fevers and neuralgia prevail in the summer and autumn. The effect of town-life in promoting consumption is made evident by the fact that in Zurich the deaths from pulmonary phthisis are one hundred and four to the thousand, while in Zug they are not more than seventeen. Tillers of the ground have thus an important advantage over those who work in shops and factories. Consumption disappears with altitude, and dwellers on the mountains or in the upper valleys are free from it; but on the other hand they are very liable to inflammation of the respiratory organs. Deaf and dumb persons, in proportion to the population, are more numerous than in any other country of Europe. And lastly, we gather that 'alcoholism' is on the increase in Switzerland as well as elsewhere.

A communication to the Société de Médecine at Caen makes known that the natives in some parts of Egypt cure hydrophobia by administering a certain insect called *Darnah*. The insect is a species of *Mylabris*. To facilitate the swallowing, it is given to the patient inclosed in a ripe date.

A doctor in Paris has invented an apparatus which he calls a spirophore, to be employed for the relief of persons suffering from asphyxia or suffocation. It may be described as a chamber constructed of zinc: in this chamber the patient is placed, but his head remains outside. Air is then drawn from the chamber by a pump; the patient's lungs expand: air is then pumped into the cylinder, and the lungs contract; and this operation is continued at intervals until the patient recovers.

The account of an experiment with ozone may be interesting to non-professional readers: 'A piece of fresh beef was cut into two equal parts, one of which was placed in a stoppered bottle containing ordinary air, and the other in a similar bottle containing ozonised air. In five days the meat in the first bottle was in full putrefaction, while that in the second bottle containing ozonised air, was as fresh as when put in, nor was any change manifested on the tenth day, when the bottle was opened to see if the meat had any offensive odour. Although the stopper was then quickly replaced, putrefaction had commenced on the following day. Milk was kept in ozonised oxygen for eight days without undergoing any change.'

Professor O. Rood of New York states that in certain conditions of the eye, such as are produced by prolonged excitation, nervous derangement, or by effects of fever, the nerves which convey impressions of colour fail to act, and give rise to 'temporary green colour-blindness.' This is a fact which should be borne in mind by persons whose occupation requires them to distinguish colours.

The question of the effect of sun-spots on climate has been often discussed, but so many considerations are involved therein that many years must pass before it will be settled. In a paper published in the *Monthly Notices* of the Astronomical Society, Professor Langley of Allegheny Observatory, Pennsylvania, after shewing the different points from which the question must be approached, states, as the result of his own investigations, that 'sun-spots do exercise a direct

and real influence on terrestrial climates, by decreasing the mean temperature of this planet at their maximum. This decrease is, however, so minute, that it is doubtful whether it has been directly observed or discriminated from other changes. The whole effect is represented by a change in the mean temperature of our globe in eleven years not exceeding three-tenths, and not less than one-twentieth, of one degree of the Centigrade thermometer.'

Captain Watkin, R.A., has invented a range-finder, under different forms, for use in military and naval training and in time of war. If a hostile ship is approaching our coast or working her way into a harbour, it is important to know her exact distance, so that she may be hit by the heavy shot of the defensive battery. The range-finder, which is a combination of a telescope and a spirit-level, requires not more than eight seconds to indicate the distance in yards on a scale, and the guns can then be brought to bear with unerring accuracy. Should the ship be hidden by smoke, observers with an electric position-finder are stationed some way off, and make known her movements by telegraph, whereby the gunners can keep up their fire although they cannot see the enemy. This seems incredible; but the explanation is, that by means of charts ruled in squares, the position of a ship in any square or any part of a square can be identified, and aim taken accordingly. Another form of range-finder, of very simple construction, is intended for use on land. It is a japanned metal box ten inches by four, with a few holes in two sides, and one half of the top free to open by a hinge. Inside is an arrangement of mirrors, and a boxwood scale of yards from six hundred to four thousand. With this instrument and three staves, used in determining a base, one man by himself can ascertain the range of an object—a battery, a wood, a river, or a body of men, in three minutes; with two men it can be accomplished in one minute. Truly we may say that the art of killing becomes more and more scientific.

The Geological Survey Department in New Zealand has published a Report on the climate of that country extending over a series of years, and brought down to 1873. From this we gather that the rainfall of New Zealand presents some analogy with the rainfall of England in the difference of amount between the eastern and western coast. Taranaki, for example, on the west coast of the North Island, has an annual rainfall of more than sixty inches; while Napier, on the east coast, has about thirty inches. In the South Island, the yearly fall at Hokitika, on the west, is a hundred and twenty inches; while at Dunedin and Christchurch it is not more than one quarter or one-third of that quantity. The climate of Nelson is described as the 'most pleasant and finest in New Zealand, on account of its calm winter, the protection of its chains of mountains, and its clear sky, which is but rarely covered with clouds.' Yet Nelson is a rainy place: more than nine inches of rain have fallen there in a single day.

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Owing to the peculiarities of climate, the glaciers on the west side of the New Zealand Alps descend very low, down to about seven hundred feet only above the level of the sea; and this is in the same geographical latitude as Leghorn. But different from the glaciers of Europe, the lower part of the New Zealand glaciers are decorated by pines, beeches, tree-ferns, and fuchsias in luxuriant growth.

From an accompanying Report on the minerals of the colony, we learn that more specimens of coal had been analysed than in any previous year, and that they 'represent an immense quantity of workable coal of excellent quality.' A splendid industrial prospect this for New Zealand.

The system of telegraph weather-signals has been adopted by the government of Canada; and storm warnings and other meteorological particulars are now regularly despatched to and from a number of stations in the Dominion three times a day. The central office is at Toronto, and thence the signals are telegraphed to Washington. A noonday time-gun is fired every day by electricity at Quebec, and for the benefit of ship-masters accurate time-signals are sent to the provincial outports: from all of which we see that Canada is co-operating praiseworthy in the grand meteorological and astronomical telegraph scheme.

The Hudson's Bay Company are taking measures for improving the navigation of the Saskatchewan and other waters in their great territory. The Red River and Lake Winnipeg are embraced in the scheme, which, when carried out, will open water communications to the base of the Rocky Mountains. The natural resources of those hitherto unfrequented regions are so great that any undertaking which promises to render them available should be encouraged. Their value will prove to be far beyond that of mere hunting-grounds, especially when the great thoroughfares cross them from the Atlantic to the Pacific.

Out of the proceeds of a munificent bequest, the Academy of Sciences at Turin have founded a biennial prize, to be given alternately to foreigners and to Italians. It is called the Bressa prize, from the name of the testator, a beneficent doctor of medicine; and the programme sets forth that 'the net interest of the first two years will be given to that person, of whatever nation or country he be, who shall have during the previous four years made the most important discovery, or published the most valuable work on Natural and Experimental Philosophy, Natural History, Mathematics, Chemistry, Physiology, and Pathology, as well as Geology, History, Geography, and Statistics.' The year 1879 is fixed for the award of the first prize, which will amount to twelve thousand francs, about four hundred and eighty pounds sterling. In 1881, Italians only will be allowed to compete, and so on every two years. With so wide a range of subjects, a crowd of competitors may be expected, and the difficulty of deciding on the best among so many will be exceedingly great.

It is not often that we hear any credit rendered to the cat for either intelligence or affection; and it is therefore pleasing to be able to record two instances in which one, if not both of these qualities is shewn in a remarkable manner in this animal. A gentleman writing from India to a friend in England, a few mails ago, says of a pet Persian cat: 'I was lolling on the sofa, drowsily perusing the newspaper a few mornings ago, when Tom came and stood near me mewing in a plaintive way, as if to attract attention. Not wishing to be disturbed, I waved him off. He, however, returned in a minute or so, and this time jumped on to the sofa, and looking me in the face, renewed his noise more vigorously. Losing patience, I roughly drove him away. He then went to the door of an adjoining room, and stood there mewing most piteously. Fully aroused, I got up and went towards him. As I approached, he made for the further corner of the room, and began to shew fight, bristling up and flourishing his tail. It at once struck me that there was an unwelcome visitor in the room, which Tom wished to get rid of; and sure enough, in looking towards the corner, I discovered a cobra coiled up behind a boot-shelf under a dressing-table. The noise made by our approach aroused the snake, and he attempted to make off; but I despatched him with my gun, which was ready loaded close by. You should have seen Tom's satisfaction. He ran between my legs, rubbing himself against them caressingly, as if to say, "Well done, master!" The snake measured five feet seven inches in length.'

The friend to whom this incident is related, after reading it to me, went on to say, that some years ago, when in India with her father, the family were gathered after tea, one rainy evening, listening to one of their number who was reading an interesting story. While thus engaged, a cat of which her father was very fond jumped on to his knee, and moving about in a restless manner, began to mew in a louder key than usual. The old gentleman, as was his wont, commenced to caress the cat, expecting thereby to quiet it; but to no purpose. It shewed signs of impatience, by jumping down and up again, mewing vigorously the whole time. Not wishing to be interrupted in what was going on, he called for a servant to put the cat out of the room; but Puss would not tamely submit to an indignant turn-out, and commenced clawing at the old man's feet. This he thought was going too far: he rose to chastise the cat; but ere he had time to do so, he discovered that it was nothing less than a timely warning which Puss had given him; for not far from where he sat there was, under the table, a small venomous snake, which probably would have bitten him had he molested or trampled on it. The reptile was immediately killed; and Puss ceased her mewing.

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