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VOL. I DECEMBER, 1885. No. 2.

MAN A CANADIAN HOME MAGAZINE

LITERATURE AND POPULAR SCIENCE,
PUBLIC AND INDIVIDUAL HYGIENE,
SOCIAL AND DOMESTIC ECONOMY.

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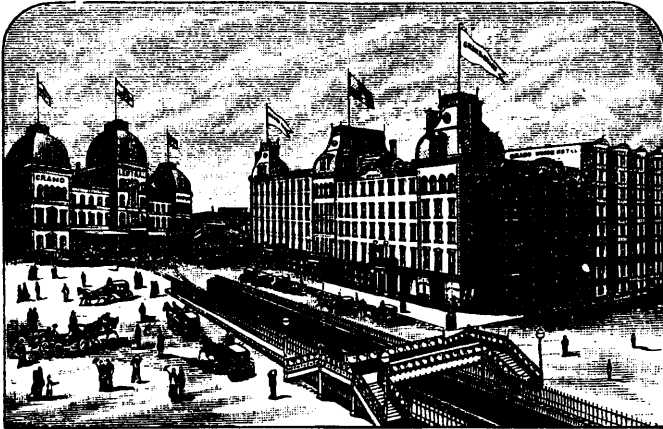
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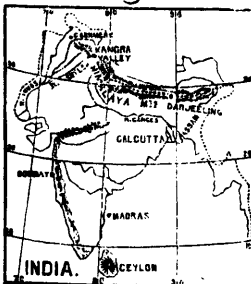
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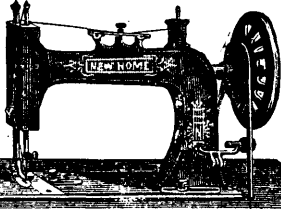
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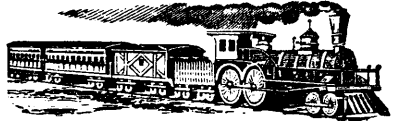
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MAN,

A CANADIAN HOME MAGAZINE.

VOL. I.

DECEMBER, 1885.

No. 2

"DESCENDEZ À L'OMBRE, MA JOLIE BLONDE."

THE Honourable Bovyne Vaxine Vyrus refused to be vaccinated. Stoutly, firmly and persistently refused to be vaccinated. Not even the temptation of exposing to the admiring gaze of a medical man the superb muscles and colossal proportions of an arm which had beaten Grace and thrashed (literally) Villiers of the Guards, weighed with him.

"It's deuced cool!" he said, to his cousin Clarges, of Clarges St., Mayfair, a fair, slight fellow, with a tiny yellow moustache. "Hav'n't I been six times to India, and twice to Africa; that filthy Algiers, you remember, and Turkey, and New Orleans, and Lisbon, and Naples? and now, when I was done only eight years ago at home, here I am to be done again, where, I am sure, it all looks clean enough and healthy! It makes me ill, and I *won't* be done; laid up for a week and lose all the fun I came for!"

"Bovey, though you *are* the strongest fellow in England, you're no less a coward!"

Young Clarges looked as he spoke, seriously: "I shall be done!"

"You? Well, so I should expect from a baby like you, Arthur! You will never grow up, never learn to think for yourself! Now let me alone on the subject, and let us look up this country place we were told about!" But Clarges was not easily silenced.

"Think of Lady Violet, Bovey! If anything were to happen to you out here, and the children, Bovey,—Rex and Florence, you know!"

"Oh! cut it, now, Arthur; I tell you it's of no use!"

Young Clarges looked out across the river, and bit the tiny yellow moustache. "Then I *won't* be done, either!" said he

to himself. It's borne in upon me that one of us has got to get this accursed thing, and if I can prevent it, it shan't be Bovey!" What a strange scene it was beneath, around, above and opposite them! Beneath flowed the river, solid with sawdust, the yellow accumulation of which sent up a strong resinous smell that almost made them giddy; to the left, the tumultuous foam of the Chaudière cast a delicate veil of spray over the sharp outlines of the bridge traced against a yellow sky; to the right, the water stretched away in a dull gray expanse, bordered by grim pines and flat sterile country. Around them, the three mighty cliffs on which the Capital is built, above them the cold gray of an autumnal sky, and opposite them the long undulations of purplish brown hills that break the monotony of the view, and beyond which stretch away to an untrodden north the wastes and forests of an uncleared continent.

"Are we looking due north, now, Arthur, do you know?"

"I suppose so," returned Clarges. He was astride a cannon and still biting the tiny moustache. "Yes, by the direction of the sunset we must be, I suppose. I say, if we are, you know, I should like to be able to tell between what two trees—it would have to be between two of those trees there—we should have to walk to get to the North Pole."

The Hon. Bovyne looked around suddenly and laughed. He was fishing apparently in his pockets for a paper or something of the kind, as he had a number of letters in his hand, looking them over.

"What two trees? Where? Arthur, you *are* a donkey. What are you talking about?"

"I say," returned Clarges, "that it is perfectly true that as we sit here, facing due north, all we have to do is to walk straight over this river—"

"On the sawdust?"

"Certainly, over those hills and between two of those trees in order to get to the North Pole. Curious, isn't it? If you look awfully close, really hard, you know, you can almost count their branches as they stand up against the sky. Like little feathers—buff-f-f—~~one~~—one could almost blow them away!"

The Honorable Bovyne laughed again. Clarges was a mystery to him, as to many others. Half-witted, he sometimes called him, though on other occasions he stood in awe of his bright, candid, fearless nature, and his truthful and reckless tongue.

"I say," went on Clarges excitedly, shading his eyes with his hand, "There are two trees out there in a straight line from this very cannon—that I should know again, Bovey! Do look where I point now like a good fellow. Don't you see there, following the chimney of that big red place, factory or other, right in a line with that, at the very top of the hill at its highest point, two trees that stand a little apart from the others and have such funny branches—Oh! you must be able to see them by those queer branches! One crooks out on one side just as the other does on the other tree. That isn't very lucid, but you see what I mean, don't you? They make a sort of—of—lyre shape."

The Hon. Bovyne shaded his eyes with his hand and looked out over the river and distant hills. "I see a line of trees, feathery trees, you aptly call them, my dear Arthur, but I can't make out your particular two. How is it possible, at such a distance, to see anything like a *lyre* of all things? Come along, I've found the address I wanted. It reads most peculiarly. It seems there are still a great number of French people around here, in fact, all over this Province which they sometimes call Lower Canada. Do you remember much of your French?" I spoke a lot in Algiers of course but I fancy it isn't much like this jargon. Our destination is or appears to be, *c/o Veuve Peter Ross, Les Chats*, pronounced *Lachatte*, so Simpson told me.

"Who told you about the place?" en-

quired young Clarges getting off the cannon? "Simpson? What sort of a fellow is he?" "Who? Simpson?" said his cousin in turn. Um—not bad. Been out here too long, though. Awfully quiet, goes in for steady work and takes hardly any exercise. I wonder why it is the fellows here don't walk more! New country and all that; I should have thought they would all go in for country walks, and shooting and sports of all kinds. They don't, you know, from some reason or other. It can't be the fault of the country." "You forget the roads, Bovey, and the fences, and the interminable distances and the immense rivers, and the long winter. I say, it looks like snow to-night, doesn't it?"

"What do you know about snow!" rejoined the Hon. Bovyne. "Let us get on, there's a good fellow—confound you! don't stare at those imaginary trees any longer, but come along."

Certainly young Clarges was possessed with the queerest fancy about those trees. "I say, Bovey, they were funny, though, to strike me like that, out of all the others! I am sure I should know them again. Perhaps some day we'll take a fly and go out there—I wonder if there's an inn? Does what's her name, your old Scotch lady, keep an inn, or is it a farm we're going to?"

"Scotch? Why do you say Scotch? She's French, I tell you. Simpson says she can't speak a word of English."

"But 'Peter Ross' is Scotch, isn't it? At least you can't make it French, however you twist it."

"I'm not anxious to twist it. Don't you see, Arthur, she is evidently a Frenchwoman who married a man called Peter Ross; she is the *veuve*, widow, you know, of the lamented Scotchman. Now do you understand? But it is peculiar."

"Very," said Clarges. "When do we start?"

"There's a train to-morrow morning at eight o'clock, but I thought we had better hire a trap, and a man to bring the trap back, and put all our things, tents and so on, into it, and go out comfortably so as to see the country."

"All right!" said Clarges. "By Jove, what a splendid night it's going to be, stars out already, Bovey! Don't you hope it'll be like this to-morrow? Shall we camp out the first night and think of—of

—Lady Violet by our camp fire, and Rex and Florence—how they'd like to see us, wouldn't they? And they can't, you know, they're three thousand miles away, trying to make out each other's faces in the November fog, eh! Bovey? I say, what shall we get to eat out there, at Lachatte, you know, the country always makes me desperately hungry."

"Oh! we shall do well enough. Simpson says she is a capital old woman, lives entirely alone; will cook for us, wait on us, make us pancakes, I expect, and give us plenty of that stuff we had this morning at the hotel."

"Sweet stuff?" asked Clarges. "I know. Syrup, maple syrup, that'll do." Simpson, the authority, thrice quoted by the elder of the two Englishmen, appeared at dinner with them that evening. He was a hard-working, stodgy sort of person who had come out to the Canadian Civil Service fifteen years ago, lived much by himself until he took a wife out of a Canadian village, a phlegmatic, stolid, unimaginative sort of a girl, who was nevertheless a good wife and an excellent housekeeper. Simpson sniffed at the dinner. It wasn't as good as his own. He felt ill at ease in the presence of the two men, whose airy talk and loud laughter struck him with a keen sense of its novelty. They joked about everything. Clarges particularly was in high feather. The wine, which came partly from the hotel and partly from the Hon. Bovyne's hamper, flowed often and freely, and Simpson, who was a very moderate fellow, wondered at the quantity his friends seemed to be able to imbibe. "Without showing any traces of it, either," he said to himself. "All this vivacity is natural; I remember the type; in fact, I was something like it myself ten or twelve years ago."

After dinner, Clarges rushed up stairs and down again with a small silk plush packet of photographs tied with ribbons. The men were in the smoking room.

"I say, I want Simpson to see Lady Violet, Bovey."

"All right, and the children too? You sentimental ass, Arthur!" Clarges laughed. It was a funny laugh, a kind of inane ripple that nevertheless tickled everybody who heard it. "But it's too smoky here. Come up stairs to the drawing-room. There's a jolly big drawing-

room with a piano, and we can say what we want to, everyone stares here so!" "I should think they would," said Simpson quietly. "Why do you get yourself up like that, simply because you're in Canada? A knitted waistcoat, three sizes too large for you—"

"That's to admit of heavy underclothing," said Clarges, not in the least perturbed. "Knickerbockers," continued Simpson, that are certainly one size too small; a cap that looks like a hangman's, and a coat that must have come off Praed St."

The Hon. Bovyne laughed long and loud. "Oh, Arthur, Arthur!" he said. But young Clarges did not mind in the least. Indeed, had he but known it, and be it remembered to his merit that he did not know it, he made a fair and manly picture as he stood under the light of the chandelier. His slim, well-knit figure was more prepossessing than the herculean proportions of his cousin, "the strongest man in England"; his crisp fair hair brushed boyishly up on one side and his well-trimmed moustache of silky yellow, his keen gray eyes and delicate features, all went far in point of attractiveness, especially when added to these mere physical details, rang the infectious laugh, clear, hearty and youthful, and spoke the natural, honest, unrestrained tongue.

In the drawing-room Clarges established himself on a sofa between the other two. "Now, Simpson," he said, "you must excuse me calling you Simpson so freely, by the way, but you know, Bovey always calls you Simpson—you don't mind, do you? You bang away at my clothing all you like, and in return I'll call you Simpson. Now I'm going to show you Lady Violet. You know who she is, she is Bovey's wife, and the loveliest woman in England. Loveliest woman in England, look at that!" Clarges held up very carefully, out at arm's length, a very fine photograph of an undeniably beautiful woman. "Bovey's wife," he ejaculated again. "You never saw her, so you don't know what beauty is, do you? But here's the next best thing, her photograph, and such a photograph! Now, you be good, as we say to the children, and I'll show you that again after all the others." Next he showed him in a sort of ecstasy, Bovey's children.

"Rex and Florence," he said, in an

awe-struck tone. Bovey laughed, so did Simpson. So would anybody have done.

"What are you laughing at," said young Clarges, solemnly. "Oh, at me! that's all right, everybody laughs at me. I knew it couldn't be the children. Now here's another lovely girl," and then there was another and still another, and then a group in hunting attire just after the breakfast; then pretty interiors with dainty rooms and women and children and dogs, a capital likeness of Fred Burnaby, Vyrus' fellow-officer, autographs of Gordon and Wolseley, a garden party at Clarges Mount, a water-party at Richmond, photographs and sketches taken in Algiers, Cairo, Damascus, Bombay and Edinburgh. Simpson sat through all this slightly bored and confused. What had he to do with this kind of life? Once he had had some gleams of it, it is true, but that was years ago, before his modest little establishment was in existence, presided over by the plain, but virtuous Matilda of his later days.

"Well, now," said he, preparing to take his leave, "is there anything further you want to know about your plans, for I suppose I shall scarcely see you again before you leave if you get off to-morrow morning as you intend. One thing—of course you've been vaccinated?"

The Hon. Bovyne muttered, "bah!" Clarges began putting the photographs away, all but Lady Violet.

"Then you haven't been done, eh?" said Simpson, interrogatively. "I would if I were you. You can't tell where you're going or whom you'll meet. Why, you can 'do' yourself if you object to a medical man fussing around."

"Can you?" said Clarges.

"I don't object," said Bovey, loftily; "but I must say I think it is making a ridiculous and most unnecessary fuss about the matter. Why, there are half a dozen diseases as virulent as the small-pox stalking about in every large town, and we don't take those! Why should we take the small-pox when we don't take the cholera, or the—the—"

"Yes," observed Simpson, in his quiet manner, "I thought you would stick for want of details. The fact is, that you can inoculate for small-pox, and you can't, as yet, for cholera or leprosy, and so wise people accept the fact, the revelation if you will, and get vaccinated. However,

as far as your immediate surroundings go, you're safe enough. Old Mrs. Ross will do all she can for you, and it isn't far, only twenty-two miles from town after all. You'll be walking in in a day or two for another tent or a barrel of whiskey. Nothing like whiskey, Canadian whiskey, out in camp on cold nights." Simpson got up.

"I wonder," said he, suddenly, "how you escaped being done on the train. You came up from Quebec *via* St. Martin's Junction, didn't you?"

"Oh! your importunate Inspector did make an effort on my behalf, but I was firm. Nearly had a lodging in the Police Station though, but I told him who we were and swore to having marks the size of flat-irons on both arms, so he let me go."

"And you," said Simpson, turning to Clarges. "Me! oh! I shall be done. I say, couldn't I walk out with you now and see a doctor about it? I believe I will, Bovey, if you can spare me. For look you, Simpson, I am the plaything of his leisure hours, a kind of Yorick, you know, and he might be dull."

The Hon. Bovyne looked grave for a second, "I believe I *should* be dull without you, dear boy, though you are a crank. Let me see, how old are you, Arthur?"

"Twenty-two," answered Clarges. "Good heaven!" exclaimed the Hon. Bovyne, "and I am getting perilously near to forty. We'll change the subject. I'm very sleepy. Don't expect to find me up when you come in, Arthur; to-morrow night, remember, we may be sleeping on the cold ground, I shall get all the rest I can to-night." Clarges and the other man took their leave.

"Once more, Bovey," said the former, "won't you be done? Simpson, make him! See here, look once more at Lady Violet, speak with *her* lips, look with *her* eyes—the loveliest woman in England!"

"Go and get 'done,' as you call it, for heaven's sake, and let me alone!" was all he got in reply.

But Clarges did not get done. He had an idea and this was his idea. To walk to some doctor recommended by Simpson and procure an instrument suitable for the purpose, and the necessary material, and to vaccinate his cousin himself. The first part was easy enough. Simpson vaguely wondering at his light-hearted

talk, left him at a doctor's surgery door, and Clarges, who could always get what he wanted from anybody in any part of the world, soon persuaded the doctor to give him a “point” and all necessary instructions.

“A small lancet is really a better thing,” said that gentleman, “but you will manage all right, I daresay. We must really take every precaution we can. Good evening.”

All this was easy; now arose the difficulty, how best to tackle Bovey.

“He's such a giant of a fellow,” thought Clarges. “But if he is only asleep as he hinted he would be, there'll not be much difficulty. What will he do when he finds it out in the morning, supposing I am successful in operating upon him to-night? What a suggestive word! I am quite the surgeon. But I'll do it—Arthur Clarges, see that you *do* do it, by all you hold dear and sacred in old England!”

On his return, however, to the hotel, he found that his cousin was clearly wide-awake again.

“Hang it all!” he said to himself, “why isn't he asleep?” But the Hon. Bovyne was not in the least sleepy. He rallied Arthur on his poor arm but fortunately did not ask to look at it. He ordered up a sherry cobbler apiece and brought out some of his rarest weeds. “I say, what do you think of Simpson, Bovey?” said Clarges, suddenly. “Think? why, that there's nothing in him to think about.”

“Did you know he was married?” “No; is he?” Bovey was always laconic. “Yes, and he has four children. Just think, four! Two boys and two girls.”

“How interesting!” The two men smoked silently for a few minutes, then Clarges said, “It must be a beautiful thing to be married, you know.”

“Well, I *ought* to know,” returned his cousin.

Clarges put his cigar down and went on. “To have somebody that belongs to you, and to know that you belong to somebody; that's marriage, and I think it must be very beautiful. Of course, you belong to other people too, just the same, and they belong to you, but not so much, not in the same way. You don't go to church all in a tremble with your father and your mother, or your sister or your brother.

You don't wear a ring—a beautiful, great broad band of gold, you know, always shining there on your finger—or you don't put one on for anybody else save just the person that belongs to you in that way, in the way of marriage, you know. And to be able to think wherever you are, ‘Well, there is that person, anyway, thinking of me, waiting for me; the whole world doesn't matter if that person is really there, anywhere, thinking of me, waiting for me.’ Now, you know, *I'll* never feel that, never, in this world. What good is there in me? I may be Arthur Clarges, of Clarges, of course, but without money, that means nothing. I say, Bovey, it's rather ghastly, but it's perfectly true. I haven't a single soul in the world but you and Lady Violet to think of me at all, or for me to think of.”

“I don't suppose you have,” said the Hon. Bovyne, thoughtfully. “You are a lone beggar, Arthur, but a cheery one nevertheless.”

“So you see,” Clarges went on, “if in accompanying you around the world in search of new pleasures and exciting experiences, anything happens to me, to me, you know, Arthur Clarges, of Clarges, nobody need mind. There isn't anybody to mind.”

“All this because Simpson has got four children! Well, I hope you'll get married yet, Arthur, you queer fish, and have six, two more than Simpson. I know what you are driving at, however. You think me a selfish brute. You can't understand how I can leave Lady Vi., and the two kids, and go off annually on tours of exploration and so forth. I tell you, I am the better for it, and she is the better for it, and nobody is any the worse for it, unless it be yourself. Men who have knocked about as I have done, will continue to knock about as long as they live. In the army, out of the army, all the same. Lady Vi. understands me, and I her, and you forget, Arthur, that you are very—
young.”

“Then may I never get any older,” said Charles, almost rudely.

Not long afterwards his cousin, slightly heavy with wine, went to bed. Clarges, abnormally waketul, tried to read *Bell's Life* which lay before him and waited until Bovey was fast asleep. They occupied the same room, a large double-bedded one, which opened into a bathroom and par-

lour *en suite*. When he was perfectly certain that his cousin was sound asleep, so sound that "a good yelp from the county pack, and a stirring chorus of "John Peel" by forty in pink could not wake him," thought Clarges, the latter undertook his delicate task and accomplished it. He did it quickly and skilfully with a tiny lancet he found in his cousin's well-appointed travelling bag. Bovey never stirred. Clarges next undertook to "do" himself. Then a strange thing happened. He had gone to the glass and bared his left arm when a sudden faintness overcame him. He tried to shake it off and sat down. Presently it left him and he felt quite as usual. Then he made a second attempt. The same thing occurred again. This time it was worse, and sigh and strength failing, he sank on his own bed, fainting. By a tremendous effort he prevented entire unconsciousness from taking place and lay there half dressed and tremulous.

"Well, I *am* a fool!" I can't help it. I can't try any more to-night, for I am as weak and sleepy—if I can get up and undress it's as much as I am capable of. But Bovey's all right. There's Lady Violet"—turning his eyes to the photograph he had stuck in the looking glass frame—"she'd thank me if she knew." Sweet Lady Vi—so good to all around her—so good to me—dear Lady Vi, the loveliest woman in England!"

When Clarges awoke he was chilled and dazed, didn't remember where he was and what he had done. When he did recollect, he rose quietly, extinguished the gas and made the room as dark as possible, in hopes that Bovey might outsleep himself in the morning. Then he went to bed properly, putting as a final precaution, his watch an hour in advance. It thus happened that by Clarges' watch it was a quarter past ten when they awoke. He rose first and bullied his cousin to that extent that the latter tumbled out of bed and flung on his clothes without indulging in his usual bath. At eleven the trap was due and Bovey was all on fire, bundled his things around recklessly and swore a little at Clarges for keeping him up the night before. Clarges was nervous, but up to the present time remained master of the situation. At breakfast, Bovey discovered the mistake in time, but attributed it

to Clarges' carelessness in such matters aggravated by a probable bad arm.

"Why I took your watch for an authority instead of my own, I don't know," said he. "But last night I thought you were the clearer of the two, in fact, I don't recollect winding mine at all, and it seems now that *you* were the delinquent." "Yes, I must have been," said Clarges, self-reproachfully.

At eleven the trap came, and by noon they were half-way to their destination. The road winding higher and higher as it followed the magnificent curves of the Gatineau was very beautiful, and revealed at each turn a superb panorama of water, and wood and sky. For a long time the Buildings were visible, towering over trees and valleys. Once the sun came out and lit up the cold, gray scene.

"I'll up, Johnny," said the Hon. Bovey, "I want to see this. Why, it's immense, this is! Arthur, how's your arm?"

But Clarges was evidently struck with something. "I say, over there, is where we were yesterday, Bovey, I can imagine I see the very spot, cannon and all."

"Just as then you imagined you saw a couple of trees here, eh? Now go along, Johnny, and sit down, Arthur. It doesn't agree with you to be vaccinated. I'm afraid you're too imaginative already, my boy. By the way, how is your arm?"

"It's a novel situation," thought Clarges. "*He's* the one, not me. It's *his* arm, not mine. But my turn will come to-night; pretty soon he'll find it out for himself."

Arrived at the house of *Veuve* Peter Ross, they found it clean and inviting, warmed by a wood stove and carpeted with home-made rugs. The old woman took a great interest in their arrival and belongings and jabbered away incessantly, in French. Did they but request her to "*cherchez un autre blankette!*" or fry an additional egg, up went her hands, her eyes and her shoulders, and such a tirade of excited French was visited upon them that they soon forebore asking her for anything but went about helping themselves. At first they thought she was angry when these outbreaks took place, but Bovey, who could partially understand her, gathered that she was far from offended, but given over to the national habit of delivering eloquent and theatrical monologues on

the slightest provocation. She had no lodgers at the present moment; a Frenchman had left the day before, and the prospect was in every way favorable, to the comfort of the two friends.

When the dusk fell, Bovey made a camp-fire.

“It’s what we came for,” he said, “and we can’t begin too early or have enough of it, and I feel chilly, queer, quite unlike myself to-night. It’s a depressing country just about here.”

“It is,” said Clarges, anxious to keep his friend a little longer in the dark. “We’ll be all right when it’s really night, you know, and the fire blazes up. What a jolly tent and what glorious blankets? We ought to go to bed early, for it was awfully late the last night. There! now it’s getting better. Hoop-la! more sticks Bovey! Throw them on, make it blaze up. Here we are in the primeval forest at last, Bovey, pines and moss, and shadows and sounds—What’s that now? Is that on the river?”

For suddenly they heard the most wonderful strain coming from that direction. The river was about three or four hundred yards away across the road, in front of them, and upon a raft slowly passing by were a couple of *habitans* singing. What strain was this, so weird, so solemn, so earnest, yet so pathetic, so sweet, so melchiodis!

“Descendez à l’ombre
Ma jolie blonde.”

Those were the words they caught, no more, but the tune eluded them.

“It’s the queerest tune I ever heard!” ejaculated Clarges. He had a smattering of music, and not a bad ear.

“Can’t get it for the life of me. It’s like—I tell you what it’s like Bovey,—it’s got the same—you know—the same intervals—that’s the word—that the priests chant in! And then, just when you’re thinking it has, off it goes into something like opera bouffe or those French rounds our nurse used to sing. But isn’t it pretty? I say—where’s Lady Violet now, Bovey, eh! Don’t you wish she could see us, see you there, quite the pioneer, looking like Queen Elizabeth’s giant porter in this queer light! and how she would catch up that tune and bring it out on the piano, and make ever so much more of it with her clever fingers, first like a battle-cry, men marching and marching you

know, and then put in a wonderful chord that would make us all creep and sigh as she would glide into the loveliest nocturne, you know—I say, what a nocturne we’re having, eh! Do you think it’s any livelier now?”

“My boy,” said the Hon. Bovyne, solemnly. “You are right, it is a nocturne and a wonderful one. I’m not given to expressing myself poetically as you know, so I shall content myself with saying that it’s immense, and now will you pass the whiskey? I certainly feel shaky to-night, but I shall sleep out here all the same. What are you going to do?”

“I prefer to try the house, I think,” answered Clarges, and so he did. When he was going to bed, heartily grateful that his cousin was as yet ignorant of his interference, he looked long and earnestly from his one window in the roof at the scene outside before he attempted again the process of self-vaccination. He could see the mighty flames of Bovey’s camp-fire, a first class fire, well planned and well plied. He could see the pale outline of the tent and the dark figure of his cousin wrapped in rugs and blankets by the side of the fire. He could see the tall pines and the little firs, the glistening line of river and the circles of gleaming white stones that marked the garden beds in front. The first snow of the year was just beginning to fall in tiny flakelets that melted as soon as they touched the ground.

“When they’re all covered with snow, it must be pretty,” thought Clarges. “Like all the Christmas trees in the world put together! The winter is beginning, the long cold, constant Canadian winter we have heard so much about. Good-bye, dear Lady Violet, good-bye, dear old England!” Clarges sat on the side of the bed with his arm ready. But the faintness came again, this time with a sickening thrill of frightful pain and apprehension, and he rolled over in a deathly swoon with his own words ringing in his ears.

When the morning broke, it broke in bright sunshine and with an inch or so of snow on the ground. The Hon. Bovyne, though feeling unaccountably ill and irritable, was delighted.

“Still I fear we are too late in the season for much camping,” he said, “I must see Arthur about it.”

He waited till ten, eleven, half-past

eleven. No Arthur, not even the old woman about. He wondered very much. He approached the house, and finding nobody coming at his knock, opened the door and went in. Something wrong. He knew that at once. The air was stifling, horrible, with an unknown quantity in it, it seemed to him. He threw open the front room door. *Veuve* Peter Ross was in her bed, ill, and of small-pox. He could tell that, for certain. He rushed up-stairs and found *Clarges* on his bed, raving, delirious.

What was it he heard?

"Bovey's all right! Bovey's all right!" This was all, repeated over and over.

The Hon. Bovyne was neither a fool nor a coward. He tore off his coat and looked at his arm, then he dragged his cousin out of the room, down the stairs and out of the fatal house. Propping him up against a sturdy pine and covering him with all available warm clothing, he sped like wind to the nearest house. But neither the swift, keen self-reproaches of Bovey, nor the skill of the best physician to be found in the town, nor the pure, fresh pine-scented air, nor the yearning perchance of a dead yet present mother could avail. The young life went out in

delirium and in agony, but "thank God," thought Bovey, "in complete unconsciousness."

When he set about removing his tent and other camping apparatus some time later, he was suddenly struck with the appearance of the tree against which poor *Clarges* had been propped. He looked again and again. "I must be dreaming," said the Hon. Bovyne. "That tree—ob! it's impossible—nevertheless, that tree has its counterpart in the one opposite it, and both have extraordinary branches! They bend upward, making a kind of—of—what was it Arthur saw in those imaginary trees of his only—*yesterday*—my God—it is true—a kind of lyre shape! There it is, and the more I look at it, the clearer it grows, and to think he has *died* there—!! And beneath there he is buried, and the raftsmen will pass within a few hundred yards of him where he lies, and will sing the same strain that so fascinated him, but he will not hear it, and learn it and bring it back for Lady Violet, the loveliest woman in England! For he has gone down into the eternal shadow that no man ever penetrates.

SERANUS.

VALUE OF AN ABSCESS.—Dr. Washburn, of a western town, says the *Railway Age*, is trying to sell an abscess upon the posterior part of his anatomy to a railway company for \$10,000. The doctor boarded a train in October last, to go to a Democratic meeting in Indianapolis. The cars being well filled by pilgrims wending to the same shrine, Dr. Washburn went into the baggage car and sat down, not only upon an egg-crate, but also upon a nail which protruded from the said crate, and entered, penetrated, and pierced that portion of the doctor's body which must necessarily come into use if one sits down at all. It further appears that the railway company had negligently omitted to scour this nail with brick or sand paper, and had permitted it to become rusty. The result of the puncture, it is alleged, was an abscess, which caused the doctor great trouble, and even endangered his life. As a plaster to this wound, he now asks the railway company to pay him \$10,000, and has called upon the court to

enforce his request. The case is full of fine points—fuller of them than the egg-crate. Did the company invite and request the physician to enter the baggage-car and sit down on the egg-crate? Is it the duty of the company to polish up the nails in the egg-crates which it carries? Should not the doctor have looked out for nails before he sat down? Was the sore really an abscess, or only an old-fashioned boil? Was the doctor's blood in good order when he sat down on the nail, or did he inflame it unnecessarily by getting mad, and prancing around in warm weather, when he discovered that the nail had gone where it ought not? Can a man's blood be in good order in the midst of a "heated" Presidential campaign, and when he is on his way to a big political meeting? Might not the doctor in his enthusiasm have taken that method of nailing his colors to the mast, and only become sorry for it when inflammation ensued? Altogether the case embraces many interesting medico-legal questions.

BUSY PEOPLE.

IF it be true that a taking title is half the battle in securing attention to what one has to say, I think I may safely congratulate myself upon having done very well in this particular instance, for my title includes everybody, and therefore everybody must needs feel an interest in what may be said under it.

We are all busy people. No person, with any respect for himself or herself, (when *are* the lexicographers going to give us an epicene word that will accommodately cover both "selves?") will plead guilty to any unnecessary idling by the wayside while pursuing this journey of life. Our being busy is distinctly a matter of personal pride, wherefore we feel bound to indignantly resent any insinuation as to our having lots of spare time, and lose no opportunity of impressing upon our friends and acquaintances that we have always a little more on our hands and in our heads, than we can comfortably attend to just at present. It is one of the pleasing little delusions of life, common to our race, and much akin to the fondly cherished convictions that we can poke a fire, preach a sermon, edit a paper, or hold a baby, to more advantage than our better-half, minister, editor, and mother-in-law respectively.

As with all popular errors there is a certain modicum of truth in this delusion. A hatred of inaction is general enough to permit of a very unanimous chorus of sincere agreement in the sentiment :

"How dull it is to pause, to make an end!
To rest unburnished—not to shine in use,
As tho' to breathe were life!"

and lest I should be grievously misunderstood at the outset, let me hasten to say that it is only the claim to being so busy that you have no spare time, that I have ventured to characterize as a popular error. That man is by nature a busy animal; that we were born into this world principally for work, and not play, and that there is a worthy task awaiting each one's attention, are axioms so impregnable as to need no buttressing. We are in no peril of forgetting the dignity of labour. On the contrary, the danger is rather of laying altogether too much stress upon it, and giving it more importance than it intrinsically deserves. I would hardly go all the way with gentle, lovable

Elia, whose ethereal spirit revolting against the stern necessity of toiling for his daily bread found vent in such warm words as these :—

"Who first invented *work* and bound the free
And holiday-rejoicing spirit down
To this dry drudgery at the desk's dead wood?
Sabbath-less Satan."

Moreover, the lines involve us in a startling heresy, for have we not all been taught from our very cradles, that

"Satan finds more mischief still
For *idle* hands to do."

and to credit him with the invention of *work* is to say the least "giving the Devil a good deal more than his due."

No one admires more than I do your honest hard-worker whose thought-seamed brow, or brawny muscles tell how faithfully he toils with head or hand, but when he carries the thing too far I must confess I do not envy him. The man that is over-busy,—unnecessarily busy, so to speak,—by no means makes the best of life, even though substantial success may crown his eager efforts. He is always engrossed in his work,—carries it about with him everywhere,—cannot fix his thoughts upon anything else, and consequently can never take any proper relaxation or enjoyment. His brain is always brimming with plans and projects, dollars and cents. In the street he hardly finds time to exchange friendly nods with his acquaintances; at home, his burdensome business blinds him to its simple joys and comforts; abroad, his mind is too occupied with dry-goods or discounts, lumber or grain to appreciate the beauties of nature or art. If coaxed into taking his wife to a concert, the sweet notes of the singer only serve to remind him of another kind of notes which must be duly provided for; at church, if awake, he may seem an attentive hearer, but in reality he is only taking advantage of this enforced pause to plan a fresh stroke of business. In fact his whole life from morning to night is what poor dainty Mantalini called it as he laboured at that awful mangle "one horrid grind."

Or again, take your over-busy woman,—from whom may my guardian angel ever defend me,—she glories in a multiplicity of engagements, delights in meetings of all kinds, and fairly revels in committees. She is president of the L. S. F. P. S. (which

means the Ladies' Society For Providing the Parsons with Slippers), Sec.-Treas. of the W.A.M.F.S.A. W.U.S., (i. e. Woman's Auxiliary to the Mission For Supplying Africa With Ulsters and Snow-shoes); besides being an active member of the Dorcas Society, Ladies' Aid, and claiming to leave no social or domestic duty unperformed.

Now, candidly, are such folks to be envied or imitated? We will all agree that they are not, and yet they are very apt to look down with complacent contempt upon less bustling bodies. But they are great bores all the same, simply because they carry the thing too far, and contrive to impart by their very presence such a toiling and moiling conception of life that one, regarding them, is very liable to wish

"We all could be a vegetable,
A cabbage or a cauliflower,
Unconscious and unidigestible,
We'd dream away life's bitterest hour.

For their's must be a happy life
To have no brains or botheration,
And when the time comes for the knife,
Be ate with placid resignation."

Seriously though, our best men and women do work altogether too hard now-a-days. Their life is liv'd at fever heat. Work, as a means of securing the almighty dollar, seems the chief end of existence, and all classes and conditions of men humbly bow before its shrine, and continue to toil on like galley-slaves long after they have succeeded in making both ends meet, and properly provided for the dreaded rainy day. The inevitable result of all this is that our noblest workers, those whose place it seems impossible to fill, go down before their time, overwhelmed beneath the burden of their work. "I shall die first atop," said Dean Swift, gazing mournfully at a stately oak, whose highest branches were blasted and bare, and he did "die first atop" after terrible years of suffering. This "dying first atop" is perhaps more common than we think in this present day, and generation. But on the other hand there is a vast deal of nonsense said and written about overworked brains now-a-days. If all that some alarmists would have us believe were true the most fatal dower a child can inherit is a more than ordinary amount of brains. We are told by adoring mothers and doting fathers, (although in justice to the latter it must be said that they are not at all so prone to nervousness upon this point as the mothers,) we are told, I say,

with bated breath, and troubled accents, that Alphonsus or Euphemia, has really too much brains, and they fear for the result. Too much brains forsooth! Viewing the matter in the light of reason and common sense it is hard to understand why big brains should be any more dangerous than big feet. The probabilities are that the Creator never endowed any individual with too much brains to be good for him, and this seems particularly the case with the majority of those who talk about excessive brainwork. It is not the having a superfluity of brains that ever does us harm, but abusing the brains we have. This precious life of ours is only too often squandered away in a reckless disregard of all principles of right living. While I am far from pleading the cause of the idler, or putting excuses in the mouth of those who would shirk performance of their proper duties under the plea of being overworked, when in the eyes of the whole community they are conspicuously underworked, still I do protest against work, pure and simple, being made the grand controlling motive of our lives, to which all others shall be subordinate.

There is nothing either engaging or admirable about work that is done simply for work's sake, and still less about that which is done with some unnecessary or unworthy object in view. On the other hand, absolute idleness is equally indefensible. It is the happy blending of hard work with wise idleness that constitutes the golden mean. By wise idleness I mean something of which the majority of men and women do not seem to have the faintest conception. It is not "thinking of nothing," which students of negro character tell us is the supreme delight of that sable race, neither is it seeking amusement after the intense feverish wearisome fashion of the present day. Rather is it quietly absorbing something through eye or ear that for the time at least drowns the petty businesses and worries of life as the incoming tide silently engulfs the pebbles on the beach.

My busy friends how much time do you tear away from the toil of your life, and from the pleasure hunting, which is only toil under a glittering disguise, to spend in quiet culture of mind and heart. Many burdened fathers sore perplexed o'er the pitiless problem of that snug competence;

much-enduring mothers, solving, yet ever facing anew the endless enigmas of household rule; angelic souls, whose one hold rime and his ambition is

With gentle loving care,
To add a lost note here and there
To the world's symphony, and dare
To make it sweeter.

Do you ever pause and ask yourselves "am I not over-busy? Could I not do better work were I less cumbered with so much serving?" If not, is it because having

sown so long and earnestly ye are impatient for the harvest? Possess your souls in patience. Your labour is not in vain, though the harvest linger.

"Good cheer faint heart, tho' all look dark,
Tho' few men know each leave their mark,
And each must struggle, straight and stark
In this great world's fraternity.
For every passing glimpse of thought
Fleeting perhaps, and scarcely caught,
Shows where some battles being fought,
A landmark in eternity,"

J. MACDONALD OXLEY.

UNIFORMITY OF NATURE.*

THE hypothesis of the uniformity of Nature, being founded upon or suggested by the discovery of uniformity in a certain department, must be carefully confined to similar departments, or, at all events, must be regarded with suspicion if it goes beyond them. We have already seen that if an astronomer, from the uniformity of mechanical action in the solar system, should conclude that there was some kind of uniformity in the configuration and the relations of the elements of the system, he would find himself deceived. Speculations concerning such uniformity are nevertheless very tempting. Kepler, as will be remembered, could not resist them, and got into some quagmires in consequence. But the temptation must be resisted; an assumed uniformity may lead to serious errors, if it goes beyond the strictly physical region to which it belongs.

And this view of the matter leads, as it seems to me, to sound conclusions, with regard to the relation in which the truth of the uniformity of Nature stands to truths, or supposed truths, of a different kind.

Take, for example, the cases of alleged apparitions. I imagine that the tendency in the minds of not a few among us is to ignore apparitions utterly and completely. They are supernatural, and that is enough; they do not conform themselves to the recognized laws of mechanics, optics, acoustics, motion. This is a rebound from the old facility in accepting tales of demonology and witchcraft in pre-scientific times, and it has much to say for itself. Nevertheless, it is scarcely philosophical,

and is in no wise demanded by the requirements of science and the conditions of scientific progress. A man may be perfectly orthodox in his physical creed, and yet may admit the weight of evidence in favor of certain alleged phenomena which will not square themselves with physics. Such alleged phenomena are not necessarily in contradiction to physical truth, they lie rather in another plane; they are like two lines or curves in space, which do not meet, and therefore can not cut each other. There are matters of the highest moment which manifestly do lie outside the domain of physical science: the possibility of the continuance of human existence in a spiritual form after the termination of physical life is, beyond contradiction, one of the grandest and most momentous of possibilities, but in the nature of things it lies outside physics. Yet there is nothing absolutely absurd, nothing which contradicts any human instinct, in the supposition of such possibility; consequently, the student of physical science, even if he can not find time or inclination to look into such matters himself, may well have patience with those who can. And he may easily afford to be generous; the field of physical science is grand enough for any ambition, and there is room enough in the wide world both for physical and for psychical research.

In truth, a wide-spread rebellion among some of the most thoughtful of mankind must be the result of any attempt to press the supposed principle of uniformity to the extent of denying all facts and phenomena which do not submit

* By the BISHOP OF CARLISLE in the *Nineteenth Century*.

themselves. Religious faith is necessarily conversant with such facts and phenomena; and though even here a familiarity with the conclusions of science may be useful in steadying the mind and fortifying it against superstition, still there are supernatural truths bound up with the Christian creed, toward which it behooves all to bow with respect, and which can not be refuted by any appeal to the uniformity of nature.

For Nature can only be uniform when the same causes are at work; and to declare an alleged fact to be incredible, on the ground that it does not conform to the natural order of things, can only be reasonable upon the hypothesis that no new influence has been introduced in addition to those which the natural order of things recognizes. But such an influence may be found in the action of will, or of some spiritual energy which does not exist in the ordinary natural order.

For example, it would be unwise absolutely to deny on *a priori* grounds the history of the stigmata of St. Francis of Assisi. There are not wanting examples to show that physical results of a remarkable kind can be produced by abnormal and excessive action of the affections and feelings, and imagination. Recently recorded cases seem to invest even with a somewhat high probability the alleged experience of St. Francis.

I am not of course committing myself to any opinion as to the spiritual corollaries which may follow from an admission of the reality of the stigmata: one person may say that they have great religious significance, another that they are a curious instance of the physical effect of the imagination. I only argue that they must not be at once brushed away in deference to some supposed law of uniformity.

Still less is it wise to deny the possibility of events, recorded in the life of one greater than St. Francis, on the like ground. I am not going into the argument concerning the miracles and resurrection of the Lord; but I wish to suggest that if the potency of a divine will be admitted, we have in the case of these events to take account of a power which does not present itself in the discussion of natural phenomena. We may well as philosophers admit, in consideration of the special circumstances of the case, the possibility

of these supernatural facts, while prizing the principle of uniformity as a working hypothesis, or as more than this. For in truth even the action of the ordinary human will introduces strange breaches of uniformity into Nature. Conceive some observer endowed with human scientific faculties contemplating this earth of ours in the pre-human period. He sees the continents covered with forests, beasts of all kinds disporting themselves in the same, a great vigor of vegetable and animal life both in the sea and on the dry land. But all is absolutely wild, not a single glimpse anywhere of human purposes and contrivance. Suppose our observer to speculate upon the future of this scene of life and activity by the help of the working hypothesis of the uniformity of Nature, of which we will liberally allow him the use out of the scientific repertory of our own times. Would it be possible that this working hypothesis could present to his view, as a possible future of the globe, anything essentially different from what he could then see? The limits of land and water might have been observed to vary, and further variation might be anticipated; volcanic action would have been seen to be very active and it might be expected that volcanoes would still be a potent agent; nay, I will even suppose that an observer is keen enough from his observations to deduce the theory of evolution, and so to expect that the flora and fauna which he witnesses are in process of transformation into something higher; but could he possibly, in his happiest moment, and when his genius was highest, ever have conceived or guessed the change which would come upon the globe when man appeared as the head and crown of the creation? It is not that man would be a stronger, or more active, or more crafty beast, than had ever appeared before, but that he would be a new creature altogether; a creature with plans and purposes of his own, capable of saying, "I intend to do this or that, and I will do it"; a creature, in fact, with a will which, joined to an intelligence infinitely higher than anything exhibited before, would enable him to treat the earth as his own, to subdue the powers of Nature, and fashion the earth's surface after his own pleasure; which also would make him a moral agent, and so a creature

different in kind from all those which had preceded him. This, however, is not the point upon which I intend to dwell now; what I wish to point out is, that the appearance of man upon the earth would break to fragments any theory which an observer might have formed with the aid of the working hypothesis of the uniformity of Nature. The forests disappear, except so far as man finds them convenient; the land is tilled; the rivers are tamed; houses are built; ships floated upon the sea; everything is regarded with reference to human comfort, and the will of man has utterly transformed the whole surface of the globe. The uniformity of Nature, as Nature has been known or manifested hitherto, is altogether set aside by the action of the will of man.

These examples may be sufficient, or at all events may help, to show the manner which the hypothesis of the uniformity of Nature must be regarded in order that it may express the truth. For my own part, I have no desire to speak lightly of it, or to despise it as a scientific guide. I have no sympathy with that opinion of Cardinal Newman, quoted by Dr. Ward at the meeting of the Metaphysical Society, to the effect that England would be in a far more hopeful condition if it were more superstitious and more bigoted. When he adds "more disposed to quail beneath the stings of conscience, and to do penance for its sins than it is." I allow that the words may admit of a wholesome meaning; but superstition, if I understand what is meant by the word, is an immeasurably and unutterably evil thing; it is the substitution for truth of that which is not truth; it is something which, from its possible poetical accompaniments, may be tolerable to man, and

nevertheless must, as I conceive, be infinitely intolerable to God. But there is no occasion to sigh for a little more superstition, in order to counteract the evils which may arise from a one-sided view of Nature; nor are superstition and bigotry the best guides to true penance; the thing really to be desired is a symmetrical and equal-handed dealing with human and divine knowledge. In the one department, the uniformity of Nature may be accepted as a valuable working hypothesis, in the other, we contemplate God without any hypothesis at all, as the Author and original Cause of Nature, of whose will uniformity and variety are equally and co-ordinately the expression and the means of manifestation to human intelligence.

To sum up the views which I have endeavored to express in this paper: I trace the belief in the principle, described by the phrase "the uniformity of Nature," to the direct and indirect influences of the successful application of mathematics to the physical theory of the solar system. The principle so established may be used as a working hypothesis in physical investigations, so far as it predisposes us to seek for law and order in all parts of creation. But it must not be dealt with as an absolutely true principle, if for no other reason at least for this, that it has not been found practicable to define its meaning with precision. And especially we must take care not to assume it even as an hypothesis, except in cases in which it is quite clear that nothing but physical causes are concerned. Which last consideration should be regarded as a warning that the introduction of the principle into theological questions may very possibly lead to most erroneous conclusions.

Only a baby,
Kissed and caressed,
Gently held to mother's breast.

Only a child,
Toddling alone,
Brightening now its happy home,

Only a boy,
Trudging to school,
Governed now by sterner rule,

Only a youth,
Living in dreams,
Full of promise life now seems.

Only a man,
Battling with life,
Shared in now by loving wife.

Only a father,
Burdened with care,
Silver threads in dark brown hair.

Only a greybeard,
Toddling again,
Growing old and full of pain.

Only a mound,
O'ergrown with grass,
Dreams unrealized—rest at last.

CONSUMPTION AND CLIMATE.

THIS is a subject of vast importance. Yet, upon it exist the most divergent views. Evidently, the time has not arrived when dogmatism can affirm that the whole truth is known. But every contribution to the solution of the admitted difficulties is cordially welcomed.

Dr. Harold Williams (*Boston Med. Jour.*, Oct. 1) presents some important points worthy of consideration.

First, as to the number of regions recommended for the relief of phthisis. He has collected a list of one hundred and sixty-eight of these places. Respecting all of these, he calls attention to two things. First, some cases of phthisis do actually get well in any climate. Second, some cases are benefitted by any change of climate.

The relative advantages of the mountains or the sea he discusses quite fully. From this he concludes :

"It would seem that the sea air possesses certain possible advantages over that of the mountains in that it is warmer and purer, and it presents slighter variations both of temperature and humidity. But this is the air which can only be obtained by sea voyages, with their attendant discomforts, bed, food, etc. Thus, it is practically available for but few. Island and seaboard stations most nearly resemble the sea, but differ from it in purity of air, temperature, and humidity. Physiologically, the mountain air is no better than island or seaboard air, because it is colder, more liable to sudden and excessive changes of temperature.

The idiosyncracies of individual patients must not be forgotten. In the same manner as some cannot take certain drugs, so some cannot tolerate the sea, and others cannot endure the mountains. Practically, a mistake in regard to this element of the individual constitution is of vital importance.

As a whole, he concludes that our meteorological knowledge and our clinical experience both show that there is little value in treating phthisis to be derived

from meteorological differences of climate. That there is a benefit from change of climate admits of no doubt, but this benefit is believed to be due to factors common to all health resorts, varying only in degree. The factors he groups thus : The change itself ; the purity of the air ; the increased number of hours of open-air exercise permitted ; and the improved hygienic surroundings of the patient. The superiority of one resort over another he regards as depending on the greater hygienic advantages it affords.

"Thus, the ideal health resort for consumption should be sparsely and newly settled. It should possess a pure water supply and adequate drainage. It should be of a dry and porous soil, and should be favorably situated with respect to neighboring heights, and marshes and prevailing winds. It should be equal in temperature, and should possess the maximum of pleasant weather. It should not be so hot as to be enervating, nor so cold as to prevent out-door exercise and proper ventilation of the houses. It should afford plenty of amusement ; it should not be crowded with consumptives, and it should be sufficiently unfashionable as to permit of hygienic dress. Above all, it should afford suitable accommodations for the invalid. The house should be carefully situated and thoroughly ventilated ; the food should be abundant, palatable and varied ; the sleeping room should be large and sunny, and afford sufficient ventilation, and I believe that such a health resort as affords these advantages in the highest degree, will be found by experience to be the best locality for a phthisical patient, no matter what be the barometric pressure, the aqueous vapor, or the 'diathermancy.'"

As the writer says, the views are not new, but they are important to all. They reiterate Parkes' view : "The best climates for phthisis are those which permit the greatest number of hours to be passed in the out-door air."—*Detroit Lancet*.

CANON FARRAR is emphatic in his opinion that Dante is the greatest poet in the world. He says shrewdly that there is more chance of our finding another

Shakespeare than of finding another Dante.

TEMPTATION is the test of the soul.

THOUGHTS ON THE EVOLUTION OF MIND.

SUCH a subject as that discussed in this essay may seem out of place in a medical journal, but, no matter what the subject discussed, if it be looked at from a scientific standpoint, it may not prove entirely uninteresting to the practitioner of rational medicine, whose modes of thoughts at least are supposed to be essentially scientific modes.

Language is symbolic. We are apt to allow the symbols to obscure in our minds the things for which the symbols stand, just as physicians are apt to think of the names of diseases, rather than the pathological conditions which the names symbolize. Words get a certain polarity, so that no matter in what connection they may be, they are apt to, in our minds, fall into that state of crystallization in which we have been accustomed to see them. Word-worship, with other image-worship, must be done away with before we can think clearly. Language must be spiritualized. Our words, as Dr. Holmes would say, must be depolarized. This depolarization of words is especially necessary in the contemplation of abstruse scientific subjects; and I hope that each reader of this little essay may so depolarize the words in his own mind, that he may see the things and processes symbolized, and thus allow no preconceived ideas to sway his conclusions.

My ideas may be exceedingly foolish, but if my language is plain, as I shall strive to make it, the foolishness will be easily patent, and consequently no confusion will result.

How can we, by following scientific methods of reasoning, account for the evolution of mind, unless we accept the ordinary materialistic idea of mind as a result, or outcome, of matter in a certain state of organization, which hypothesis is, I undertake to say, untenable? Descartes advocated the automatic theory in regard to animals, since followed by Huxley, who intimates that man is a "conscious automaton." Thought, feeling, and consciousness, according to his hypothesis, are the result of cerebration, and not concerned in cerebration at all; only the indices of changes going on in the brain, and bearing no more relation to those changes than the whistle of a locomotive bears to the machinery of the engine.

Charles Bonnet, the Genevese scientist, wrote very clearly the same idea (*essai de Psychologie*) fancying, at the same time, a soul, which while looking on and perceiving the workings of the machine, might imagine itself to be the cause of the phenomena which it saw.

This materialistic idea is the necessary outcome of the theory that mentality, if I may use the word, is the result of nerve changes. On strictly physiological grounds this idea cannot be successfully combated. If, as Mr. George Romanes very well puts it, in his "Rede Lecture" for 1885, at the University of Cambridge—if "all our knowledge of the external world, including the knowledge of our own brains, is only the knowledge of our own mental states; we do not even require to go so far as the irrefutable position of Berkley, that the existence of an external world without the medium of mind, or of being without knowing, is inconceivable.

"It is enough to take our stand on a lower level of abstraction, and to say that whether or not an external world can exist apart from mind, in any absolute or inconceivable sense, at any rate it cannot do so for us. We cannot think any of the facts of external nature without presupposing a mind which thinks them, and therefore, so far, at least as we are concerned, mind is necessarily prior to everything else."

Herbert Spencer, in the closing paragraph of "First Principals," says, in speaking of the arguments contained in that book: "Their implications are no more materialistic than spiritualistic. The materialist, seeing it to be a necessary deduction from the law of co-relation, that what exists in consciousness under the form of feeling, is transformable into an equivalent of mechanical motion, and by consequence into all the other forces which matter exhibits; may consider it therefore demonstrated that the phenomena of consciousness are material phenomena."

Can any effect exist prior to this cause?

But, in direct opposition to an obvious truth, the materialistic theory assumes that one thing is produced by another thing, when the thing produced must necessarily exist prior to its cause.

The wonderful mechanism of the animal body is able to perform, up to a certain

point, all the delicate adjustments necessary to preserve the equilibrium between its internal and external relations, but beyond this certain limit, adjustments and adaptive movements are never performed without consciousness.

How is it that motion produces this thing which is not motion? According to the law of the co-relation of forces, motion can produce nothing but motion.

Furthermore, if consciousness, or feeling and willing, are always present in action beyond a certain degree of complexity, must they not, according to the idea of evolution, be of some use—have resulted from direct or indirect equilibration? Now, is it reasonable to suppose that these last exhibited functions of the highest organs of the highest animals stand out of relation with all other attributes and have no utility? Evolution is so generally accepted that it needs no word of argument or explanation. But if we reverse the terms of our argument, and assume that mind is the cause of brain action, where do we end.

Science should recognize no such thing as miracle; but if this spiritualistic theory—the oldest, and one absolutely irreputable—be accepted, must we not recognize something supernatural or miraculous?

I have shown, I think, that the external world, being known to us only as motion, it is impossible for the mind to infer its own causation from the external world—from cerebration—for would not this be saying that the mind is the effect of its own knowing—an effect of motion? This is obviously absurd.

To say, on the other hand, that motion is caused by mind, is saying that the mind might infer that it produces the motion that it takes cognizance of.

It is impossible to throw over by any argument this theory; it stands on too solid a foundation, but it is not opposed to all the tendencies of science?

If motion, as I have said, can produce nothing but motion, so, conversely, motion can be produced by nothing but motion. I have shown that both the materialistic and spiritualistic theories collided with the deductions of sciences.

Now let us suppose or assume, that the apparent quality of mind and motion is *only* apparent, not really so, that it is on account of our imperfect mode of apprehension that there is any distinction, or

duality apparent; and that a change taking place in the mind, and a simultaneous and corresponding change taking place in the brain, are not distinct changes, but in reality only one and the same change; that the train of thought and a molecular change of nerve-cells are really one and the same change, and two only on account of our manner of perceiving.

We have, then, a theory which, for the simultaneous changes in mind and motion, assumes only one causation.

By this hypothesis the use of mind is shown, inasmuch as the causation of adjustable movements beyond a certain point is shown to depend upon volition, as, otherwise, cerebration would be impossible. This is easily seen if it is remembered that really the cause is one and the same.

According to this hypothesis mind and brain motion are identical, and if this be so, we might suppose that motion whenever it occurs is, as Mr. Romanes says in his lecture, the "raw material of mind," and that it is only in the exceedingly complex and highly elaborate human cerebrum that it results in a self-conscious personality. And, should any objector say that, according to this theory, the decomposition of a human brain means the dissolution of a mind, I should reply: "there are more things in heaven and earth Horatio, than are dreamed of in your philosophy," and that such an inference is not a necessary deduction from the premises; neither does it follow as a necessary sequence that mind might not exist disassociated from brain. But to return to more practical thoughts: The study of mind and the study of nature are one and the same study. There is a "unity of nature." As maintained by the older Pantheists, we exist in a medium of mind.

Indeed, though this theory may be called pantheism, is it not rational and scientific pantheism? We must not be afraid of names, or the consequences to which our reasoning may lead us; as Huxley says: "Logical consequences are the scare-crows of fools, and the beacons of wise men. The only question which any wise man can ask himself, and which any honest man will ask himself is, whether a doctrine is true or false."

The theory which I have tried to set forth is not so unsatisfactory as materialism, nor so opposed to scientific instincts

as spiritualism. If we adopt the spiritualistic theory, though we may believe the hypothesis of evolution in regard to the adaptation of the internal relations, when we come to mind we must look upon it as a special creation, and its manifestation a constant miracle.

If we adopt the materialistic hypothesis, we can understand how, by the process of natural selection, organized beings might be brought from a homogeneous incoherent state, to a gradually increasingly heterogeneous coherent condition, until we seek to prove that mind is the result of cerebration, when we find that such a supposition cannot be demonstrably

probable by any of the laws of science. If we take our other theory we can see easily how the evolution of mind might go on simultaneously and successively with the evolution of motion, both being, in fact, one and the same thing. This hypothesis is intellectually satisfactory, and when the instincts and systematically severe methods of inquiry, which have enabled science to make clear so many of the mysteries of matter, are brought to bear upon the mysteries of mind, greater things than any yet revealed may be confidently anticipated.—DR. E. H. KNICKERBOCKER, *Detroit Lancet*.

YESTERDAY AND TO-MORROW.

IT is strange what a halo hangs about yesterday; how even its trials and tribulations borrow something golden from its remoteness; how, seen in perspective, all its happenings stand out picturesquely clothed in poetic illusion. While it was with us it surely was not so fair; it failed perhaps of the charm which surrounds it; it was a commonplace space of time, it may be, marked by nothing in particular, but how roseate in the distance; or it was full of pain and perplexity, and behold! by what magic has it become poetic and popular, by what spell has the pain become pathos, and perplexity almost humorous? Its frustrated hopes have assumed grander proportions than those of fulfilment. Yesterday was our own, but a little while since ours to use, to improve, to enjoy: perhaps we cared little about the possession, held it lightly, as we are apt to hold our good things, unproven; regarded all its opportunities, all its gifts, as of small value; to-day, perhaps, we are better able to understand its meaning; in its light the affairs that looked so insignificant start into importance and reveal their true nature; looking backward, we find the circumstances that looked so commonplace, so uninviting, have thrown off their disguise and show their real proportions, while the ills that appeared so mountainous have dwindled into pigmy annoyances. While yesterday was present time it was prosaic and dull enough, perhaps, without interest or inspiration; now that it no longer exists,

how many of its discords resolve themselves into heavenly harmonies! its prose becomes heroic verse, and to-day is the key to many of its riddles. But if yesterday is a symphony in the mind, an idyl, to-morrow is a romance. What beautiful possibilities lie in wait for us there, what answer to our prayers, what response to our expectations! To-morrow we will be strong to contend against wrong, we will learn unselfishness; to-morrow will make amends for all the shortcomings of yesterday and to-day. Something may even happen to make us beautiful, to shape our lives to our wishes, to endow us with genius. To-morrow the Fairy Prince may arrive, our ship may come in, our lines may be cast in pleasant places, the wind may change and sweep the cobwebs out of our sky. We feel a hopeful confidence that to-morrow will bring us compensation for the trials of to-day, and we can hardly believe that it will disappoint us; it enchants us with its promises, which, after all, are only the mirages of our own wishes; difficult paths will be made more easy for us when it arrives, and its near neighborhood renders to-day's worries the more endurable. Can we not bear a little discomfort, a little ache to-day, when all the largest of to-morrow may be ours—the prosperous to-morrow that allures us till all our days are dusty yesterdays?—*Harper's Bazar*.

JEALOUSY is the homage paid by inferiority to merit.

SIBERIA AND THE EXILES.

Whoever, by a judicial sentence, or by an administrative measure, is exiled to Siberia, is first lodged in a district prison, whence he is transferred to a government prison. The transportation to Siberia is carried on by railroad and boats to Tobolsk, where a division of the gang takes place, and destinations are appointed for the prisoners according to the character of their offences.

Finally, the prisoner has reached his destination, either alone or with his wife and children, and is allotted accordingly a larger or smaller hut for a dwelling—I am speaking particularly of those who had been condemned to death. The chains are not taken off from his hands and feet, but he must work with them on. It often happens that he dies shortly—that is his luck; or that he will not accommodate himself to the situation, and leads a wretched existence, and finally goes to ruin unless he has energy enough left to escape. He is himself committed to the most arduous exertions to better his fate, but, of the thousands and thousands who arrive there, only a very small per cent. have the earnest will to do it. The great majority brood over their lot, and think and dream only about the ways and means of bringing about their escape. The convicts are mingled in work with the free laborers, go in and out with them, and do not have to exert themselves any more or do any harder work than they. The mine is not a prison as we are accustomed to regard prisons. The convict lives free and unwatched, alone or with his family, and the only limitation of freedom imposed upon him consists in his being always shackled with chains, whether at work or at recreation, by day and by night, and in his never being allowed to go out of the bounds that are assigned to him. In a district of six thousand square versts (about eight hundred and sixty geographical square miles), there are only a hundred soldiers stationed to watch the thousands of convicts. Escape under these circumstances is easy and is a daily event. No one runs away alone; they generally go in pairs, and after careful preparation. The mine-smith is always ready, for a fee of ten copeks, to be a help in time of need and take off the chains. The fugitives gather up what seems most useful to them

and travel under cover of darkness on their hazardous journey. On the next morning the director mentions the fact that A and B have disappeared. "No matter," he coolly remarks, and with that the affair is over for him. The fugitives spend the first three or four days in the woods, travelling at night, when they pass on the highways undisturbed, and will rarely have to take the trouble to hide themselves. More than once have we met such desperadoes on the road, been begged from and given in regular Siberian style. If a police officer comes in the way he will offer his mite very quietly without asking a question. "Let them go, its no matter," is the refrain of the officers. The farmers take the best of care of the fugitives, and that quite systematically. At night, before bedtime, provisions for any passing "unfortunates" are placed at the windows in all the villages on the roads leading to Russia. When a pair of such men go into the village they go around from house to house, take the food they find set out, as much as they want, with a little provision for the road, and proceed to the bath-house at the end of the village, where it is always pleasantly warm, to sleep; and this they do with the greatest security, for they know that in case of danger from the military patrol the nearest farmer will send his son or a servant to the bath-house to warn any "unfortunates" that may be lodging there. The farmer is the providence of these people.

After the fugitives have put a distance of one hundred and fifty or two hundred miles between themselves and the mines the journey becomes easier and they appear more openly. They can venture to ask for a lodging from any of the farmers and to take horses from the back of the village and ride on them to the next village. There they will unbridle the beasts and start them back towards where they came from, mount fresh horses and so on for hundreds and hundreds of miles. But the horses are every time carefully started back to their homes. Everything goes smoothly, and the sympathy of the people is inexhaustible, so long as the "unfortunate" does not steal. As soon as he appropriates the smallest portion of strange goods he seals his fate. The

whole village turns out and pursues the thief, who is beaten down like a dog, wherever and whenever he is found; and he is always found. The result of this inexorable popular justice is, that hardly any thieves are to be found in Siberia, and that no country enjoys greater security than this colony of criminals. . . . The escape of convicts is a daily event. Of the fifteen thousand prisoners annually brought into the district an average of five thousand escape. If they are brought back they flee again.

This is the shadowy side of the convict's existence: I will now briefly sketch the bright side. A convict who has become skilled in mining repents of his offence, submits to his fate, works industriously, and conducts himself well in every respect and ventures in time to open his heart to the director and ask to have his situation improved. The officer encourages him, gives him good advice, and permits him, after he has suffered three, four, or five years of punishment, to have his chains replaced by lighter ones, and when he is convinced that the man is really reformed, grants him a settlement. Thus the prisoner has become a free man, except that he is never permitted to leave the district to which he is assigned. Now, the advantage of the system that permits the family of the prisoner to go with him to the place of punishment is manifested. The man has, during his long years of hard labor, been with his wife and children, has gained courage and strength in this family life, and has become a good man. The presence of his family has been a blessing to him. When in other countries the doors of the prison close upon a condemned man the world is no more to him—all connection between him and his is severed; while to the Russian prisoner is left the comfort of his family, a strong anchor that holds his heart fast against the tumult of his sufferings. The released miner goes with his family to the settlement which has been designated for him. He has nothing but the bare land, his own strong will, and his energy inured to suffering. The village must extend a hand to him and advance the means for setting up an independent establishment. He is furnished a house—of course a very poor one—farming tools, seed-corn, and a start in live-stock. Now he begins a new life. After the

first harvest is gathered, and what is necessary for his bare support has been reserved, he goes bravely to work to discharge his obligations to the commune. After ten years at latest, he will have made good to the last grain of corn, and he then becomes the owner of an estate free of debt, for which he has only to pay a small ground rent, and has the satisfaction of knowing that after his death his children will be free men in a home founded by him.

Now, how does the condition of a person discharged from prison in one of the so-called civilized countries compare with that of this Siberian? The last spark of self-respect that may be left in him is extinguished by the reception society gives him. . . .

Pardoned convicts or their children are living in nearly every town and village of the Altai region, and this fact is the origin of the most curious relations. I sojourned for a short time at an inn in Tomsk. The host and his wife made an unfavorable, I might say a repulsive, impression upon me. I could not refrain from expressing my suspicions to the chief of police, to whom I had been introduced. To my edification I learned that the host had been condemned to twenty-five years in prison for fraudulent bankruptcy, and his wife to twenty years as his accessory; that the porter was an old house-breaker, and the four butlers had been compelled to take the involuntary tour to the East for thefts; the two maids were child-murderers! Such is the environment in which the people of that district constantly live. On the next day I dined by invitation with a merchant. I met a polite, cultivated company, and learned afterward from my friend the police-officer that the apothecary, who sat next to me, had been transported for poisoning, that three of the guests were fraudulent directors of exploded banks, and two were counterfeiters.

Real prisons with locks and walls are comparatively rare in Siberia, and form in all cases, unless the positively evil disposition of the convict prolongs his stay, a transitional abode between the unlimited freedom he enjoyed before his offense and the limited freedom that follows his sentence. Offenders are not cast into narrow cells for the full term of their punishment but go around free after a short confine-

ment, and are supported by the contributions of their former colleagues, while they are afforded full opportunity to found a new existence. The contrasts between the positions which released prisoners may attain in Siberia and the offense which led to their exile are frequently quite comical. The child-murderer becomes a trusted nurse, the burglar an overseer, the thief a confidential servant! But a practical Christianity is exercised toward the fallen one. The Government and private persons rival one another in pointing out and clearing the way of reform for the wanderer.

When one has studied these conditions on the spot, and has satisfied himself that while the situation of the prisoner condemned to death and pardoned to the

mines is hard, it nevertheless depends upon himself whether he shall improve it and make his children free, independent, and prosperous citizens; when one sees how the opportunity is given to all convicts, without distinction as to what their crime may have been, to found by their own exertions a new and honorable career, and that the Government aids the earnest efforts of such persons with council and act; when one, finally, contrasts the magnanimity, fidelity, and touching sympathy, existing among private persons, with the sad lot of convicts in Europe and America, he will have to admit that there may be worse countries than Siberia. —DR. ALFRED E. BREHM, in *Popular Science Monthly*.

THE INDEPENDENT PURSE.

IN a recent number of Harper's *Bazar*, a writer states that were one asked what change would make most difference in the happiness of married life, it would not be hard to answer. The change it is said, would not lie in conceding to women the right of a separate boudoir, though it might perhaps be better were every woman to have a private apartment of which she might turn the key, even against her husband, as freely as he may lock his study or office, but that it would be the introduction under some form of an Independent Purse. By this is meant something beyond the usual allowance for dress and household expenses made in most families which is usually based on sheer convenience. There is no more justice in it than in the sum allowed Bridget for yeast, or Michael for horse feed. The true division is not based on convenience but on right, on the knowledge that the wife's share of the day's work is as essential as the husband's, and that there should be some equality in the division of the proceeds. The family relation is, in its merely business aspect, a kind of co-partnership. In a partnership, each partner, no matter what part of the business he manages, draws a share of the proceeds as a right not as a kindness, why is it not so with a wife? In some cases the proposition would be unreasonable, but in the great mass of instances the wife does her share of earning the daily bread of the family. Often she does this directly,

as for the case of the farmer's wife, who usually works as hard as her husband, and where domestics are scarce, harder. Even in this case it is the husband who is the treasurer who collects the money earned and "gives"—or perhaps does not give—it to his wife. But where her work is not so obvious it is just as essential. A woman works herself to death before the husband discovers, by what it costs him to buy the services of housekeepers and nurses, that the material labor of his wife was worth a salary. He is happy if he does not see reason to think that if he had only "given" her the amount of that salary he might have saved her. After all, is not Whittier right? Are not "had I only known," sadder words than "it might have been?" It will be evident on a little thought, the writer in the *Bazar* adds, that a married woman needs more than an allowance for food and clothing—the food to be shared by her household, the clothing to include probably that of her younger children. She needs such an income as will make her the equal of her husband as to her general expenditures, dress included. Probably the item of dress is the one department in which women are more liberal in expenditure than men, the result in part from the customs of society from which husbands would by no means wish their wives to depart. But, apart from dress, there certainly prevails among men a much freer standard of small.

expenditures than among women. It may be said it is base and unworthy to treat married life as a co-partnership only, but a wrong system makes it a business affair, as far as the labour goes, but the alliance ceases where the distribution of profits is concerned. Marriage is something more than a co-partnership, but it is nothing less; it is governed by higher laws, but by no lower. It is absurd to expect a woman who has earned a thousand dollars a year, and such cases are now common,

to work harder in her own household and yet handle less money while her husband handles plenty. It is not a question of economy where economy is needed; women are quite as ready as men to accept the necessity of that. It is the question of sharing and what is called "giving" a question between justice and the traditional inquiry addressed by a certain Quaker to his wife, "Rachael, where is that ninepence I gave thee the day before yesterday?" M. B. P.

THE DREADFUL MICROBE.

IT has lately been discovered that nearly all the diseases which are most formidable to mankind are the work of animals so small that their existence was for centuries unsuspected. They are more dangerous than the large animals were to prehistoric man. They swarm all round, and attack one in his sleep and at the dinner-table. In view of these dangers, all can envy the condition of man when he had nothing to fight except the full-grown wild beasts in the front yard. Better far are six lions on the front piazza than sixty millions of bacteria in the water-pitcher, for the dangers which one can see and shoot at are infinitely preferable to those which one can neither see nor hit.

It is very evident that all must make persistent effort to reduce the number of microscopic animals to at least the extent to which their predecessors reduced the number of wild beasts. Every man must become the protector of his own household. The cautious man will hereafter never venture to open his door without sweeping the front yard with his microscope worn like a pair of spectacles, ready for instant service. Man will probably have to abandon his present house, as it affords little or no protection against the fierce bacillus; and he will be compelled to live in glass houses surrounded by ditches filled with carbolic acid, and provided with ventilators so contrived as to forbid the passage of the enemy. Governments will doubtless offer rewards for the capture or killing of microbes; and bands of scientific policemen, equipped with powerful breechloading microscopes, will ceaselessly hunt down the foe.

It is undoubtedly a gigantic task to exterminate all microbes; but, after all,

it is not much more difficult than the task of exterminating noxious animals must have seemed to the sparse and feeble population of the stone age. Though millions of bacteria may occupy a single drop of water, it must be remembered that a single volley of carbolic acid can kill billions of them. If man is fearless and persistent, he will conquer the microscopic animals, and virtually exterminate them. The time may come even when scientific persons will establish parks in civilized regions for the preservation of microscopic game, and petition for the passage of game laws, making it a misdemeanor to kill a bacillus during the breeding season. Sportsmen will travel thousands of miles in search of game and of rare sport among the bacteria of Central Africa and the Indian jungles. Some scientific Gordon Cumming will describe, in thrilling words, a wild gallop over an African plain in chase of a predatory bacillus; and some scientific Baker will tell us of the midnight hours spent in waiting by the side of a malarious Indian pool for a stray microbe, and of the awful moment when the microbe bounds out of the jungle, and the hunter discovers that his carbolic-acid cartridges are wet, and he can defend himself only with his travelling flask.

When man's microscopic foes are finally exterminated, he will probably live to the green old age of several centuries. If all diseases are produced by bacteria, one cannot die after bacteria are exterminated, and will have to rely solely upon railroad accidents and steamship disasters to rid himself of the burden of life. This is a pleasing prospect, and each one can do something toward making it a reality by waging incessant war against bacteria wherever they may be found.—*N. Y. Times*.

THE GREATEST FOE TO INTEMPERANCE.

WHAT are the greatest foes of intemperance? On this subject honest and excellent men and women differ. For my own part, I believe we should use every means that promises good results: I wish to call attention to a foe of intemperance which, perhaps, in our zeal for other things, has not received its proper share of attention.

I start out with the proposition that the craving for stimulants is, in most cases, evidence of deficient vitality and an impairment of nerve, force, and that, consequently, the greatest foe to intemperance is the sanitarian, the man who teaches human beings how they may be well, and how they may enjoy life in a natural way. The perfectly healthy man is always happy. It does not matter whether he is rich or poor, whether he is educated or ignorant, his spirits overflow, and he has buoyancy and joyousness to spare. He has such a fullness of life that existence becomes a delight, and he thanks God for it. What does such a man want of stimulants? They actually depress him. On the other hand, those deficient of vitality, or those whose nervous systems are so disordered so they do not give out sweet music with every breath, those who are poor-spirited and cannot be happy, those whose hands are cold or who are depressed, or feel downcast and forsaken, those who have overworked or eaten too much, or gone without food and sleep, are the ones who, if not guided by wisdom, have cravings for drink. Who has not known even temperate people, when in this condition, to take a little wine or beer to lift themselves up for a moment to the level of the healthy man.

The late Rev. Charles Kingsley, a clergyman of the Church of England who preached so many sanitary sermons, says on this point: "The craving for drinks and narcotics, especially that engendered in our great cities, is not a disease, but a symptom of disease, of a far deeper disease than any which drunkenness can produce, namely, of the growing degeneracy of a population striving in vain by stimulants and narcotics to fight against those slow poisons with which our greedy barbarism, miscalled civilization, has surrounded them. I may be answered that the old German, Angle and Dane drank

heavily. I know it; but why did they drink, save for the same reason that the Fenman drank and his wife took opium, at least till the Fens were drained? Why, but to keep of the depressing effects of the malaria of swamps and new clearings, which told on them—who always settled in the lowest grounds—in the shape of fever and ague? Here it may be answered again, that stimulants have been, during the memory of man, the destruction of the red man. I reply boldly that I do not believe it. There is evidence enough in "Jacques Cartier's Voyages to the Rivers of Canada," and evidence more than enough in "Starchey's Travaile in Virginia," to quote only two authorities out of many, to prove that the Red Indians, when the white man first met with them, were in North and South alike, a diseased, decaying and, as all their traditions confessed, rapidly decreasing race. Such a race would naturally crave for the 'water of life,' the 'usqueba,' or whiskey, as we have contracted the old name now. But I should have thought that the white man, by introducing among these poor creatures iron, firearms, blankets and, above all, horses wherewith to follow the buffalo herds which they could never follow on foot, must have done ten times more towards keeping them alive than he has done towards destroying them by giving them the chance of a week's drunkenness twice a year, when they came to his forts to sell the skins which without his gifts they would never have got.'

Men and women take to stimulants not only to overcome exhaustion, but to drive away sorrow and care, even to drive away dullness and stupidity; but would men and women be dull and exhausted and stupid if they were full of animal spirits and overflowing with good health?

So I repeat what I said before, that the greatest foe to intemperance is the sanitarian, the health reformer, who leads people into healthful habits of living, of eating and drinking, of working and sleeping, of recreation and study.

Every nutritious and healthful meal, neatly spread and partaken of with thankfulness, is a temperance lesson. Every house well built, with conveniences for doing work easily and without waste of force, with bathrooms, sunny windows.

and good ventilation, is a temperance sermon. Every vegetable garden, rich with nutritious food, and every fruit farm abounding in luscious apples, grapes, peaches and pears is a foe to intemperance. Every school where there is no overcrowding, where the brain is properly taken care of, so it shall not be deranged, helps on the cause of temperance. On the other hand, everything that tends to lower human vitality: overwork, overstudy, too little sleep, too little work—all prolong the time when intemperance must produce its evil effects. Every bad cook who prepares unsavory, indigestible meals helps to make a demand for stimulants.

Dr. Brunton, in a recent work of great originality and extensive research on *The Physiology of Digestion*, says what will be applauded by all: "Good cooking is one of the most effective means of stilling the craving for strong drink, which is the root of so much evil. Drink craving, in truth, depends, as often as not, on causes of a purely physical nature. Bad cooking is one of the causes of an unequal thirst, and the 'demand' thus created leads very naturally to a 'supply' in the shape of alcoholics. The mental phase of contentment which supervenes on the digestion of food which has been savory and well cooked, is a powerful stimulus to temperance; just as the

opposite condition of badly-cooked meals suggests a remedy in the shape of liquor, which is often consumed, under such circumstances, greatly in excess of any needs the body may, physiologically, exhibit for alcohol. This is well seen in Switzerland, where, when the food is by no means of a savory kind, a glass of 'schnapps' is resorted to for the purpose of 'tempering' the meal, and of rendering it more appetizing. There is probably a mental effect produced by a pleasant well-cooked meal, which affects the brain and nervous system in an appreciable manner, but one at the same time difficult to explain. Be this as it may, there seems no reason to doubt that good cookery and temperance are sworn allies; carelessness in preparing food, and, it may be added, in feeding at large, is the equally staunch ally of intemperance and excess."

Sanitary reform, however, must be broad and complete. It must include the whole man, his physical, mental and moral education, and even his birth; for who has not known even temperance parents to give birth to children who loved spirits, and why? Because they had weakly children, who craved something to brace them up and make them think they were strong, if only for a brief hour.—*Herald of Health*.

MOODS are those transient states of mind which dispose the person to give way to her bad feelings and attribute them to an entirely different source from the real one. Keep a record of your moods for a month, and you will learn they are only clouds over the landscape of the mind. The remedy is healthy occupation and mental discipline. Moods are most common among the idle, the rich and the nervous; the poor and the industrious have little time to indulge in them.

SIGNS OF LONGEVITY.—Signs are not to be relied on absolutely in regard to the duration of life, any more than they are regarding the weather, but Lord Bacon's remarks on the subject may be of interest. His signs of short life are quick growth, fair, soft skin, soft, fine hair, early corpulence, large head, short neck, small mouth, fat ear, brittle, separated teeth. His signs of long life, slow growth, hard, coarse hair, rough freckled skin, deep furrows

in the forehead, firm flesh with veins lying high, wide nostrils, large mouth, hard gristly ear, strong teeth. He adds that early gray hair is not significant, some of the longest livers having turned gray in early life.

SARAGOSSA EPITAPH.—The following singular inscription appears on the tombstone of the King of Spain's precentor, in music, in the Cathedral Church of Saragossa:—"Here lies John Cabeca, precentor of my lord the king. When he is admitted to the choir of angels, whose society he will embellish, and where he will distinguish himself by his powers of song, God shall say to the angels: 'Cease, ye calves, and let me hear John Cabeca, precentor to my lord the king.'"—Walker's *Hibernian Magazine*, or *Compendium of Entertaining Knowledge*, for October, 1798.

J. A. MACPHERSON, LL.D.

ABOUT (CHRISTMAS) TURKEYS.

CHRISTMAS, the eighteen hundred and eighty fifth Christmas, will have come and gone, and a great many turkeys will have been eaten, before another number of MAN reaches its readers. It may be that there will be many less entertaining subjects read about and discussed between this day and that, than the turkey, whence came the bird, and what are its habits. Hence the following, chiefly from *Harper's Bazar*, may prove interesting to the readers of MAN :

It has been strongly hinted that the turkey rather than the eagle should have been the representative bird of the United States, as it certainly seems to be on Thanksgiving day and Christmas. Benjamin Franklin emphatically expressed the opinion that the eagle, by reason of its cowardice and thievish habits, was utterly unfitted to be the representative bird.

The turkey, it appears, is not a modern American product, for there is ample evidence that the inhabitants of Mexico, at the time of the discovery of this continent, kept the bird in a domesticated state. Indeed, it is known that Montezuma, who had a fine zoological garden, fed great numbers of turkeys to his wild beasts every day,

The conquering Spaniards were not slow to see and appreciate the good qualities of the turkey, and in 1526, or within eight years after the discovery of Mexico, it was already an occupant of the Christian poultry yard, not only on the mainland, but in the West India Islands as well. Fifteen years later it was introduced into England as a rare bird ; but so quickly did the noble creature win its way to popular esteem, that by the end of thirty-two years more it was the grand dish at the farmers' Christmas dinner. France was somewhat behind England in becoming acquainted with the turkey, though from its first appearance in that country the utmost honor was accorded to it. In 1570, when the bird was almost common in England, the first turkeys ever raised or eaten in France were served at the marriage feast of King Charles IX.

It is from the Mexican variety of wild turkey that our domestic turkey is derived—a seemingly doubtful assumption until it is remembered that our domestic bird

was brought to this country from England, which had its supply from Mexico.

In the early days the wild turkey of northern and eastern North America was very abundant ; but it naturally was driven back by the advance of civilization, and now, like the native human inhabitants it is seldom found except in the west, and there in constantly decreasing numbers. In fact, its complete extermination is a question only of time.

Unlike many of our birds, the wild turkey is not migratory, but remains with us throughout the year. A seemingly migratory movement takes place when the scattered groups of birds gather in one large band and travel from one part of the country to another ; but this movement is for food, not for change of climate. In the matter of eating, as in many other particulars, the wild turkey is like its domestic relation—a glutton. It eats until all food is gone, and then travels off to find more. Like most other gluttonously feeding animals, it can exist a long time without eating anything—an attribute which stands it in good stead when a heavy fall of snow comes, and so covers the ground as to hide the food upon which the turkey depends. It will sometimes pass five or six days perched upon the limb of a tree waiting dejectedly for the snow to melt away.

When the necessity for seeking better feeding grounds has come, the small family parties which have been foraging on their own account gradually collect together and in bands of seventy-five or one hundred set off on foot. At this time the old male birds are sternly ordered to keep in a separate body, and hold themselves aloof from the family parties. The reason for this peculiar regulation is that the old rascals, moved by jealousy, will at every convenient opportunity kill the younger male birds. This unnatural conduct of the fathers toward their offspring begins from the moment the hen has laid her eggs. If she be not careful to hide her nest, her lord and master will ruthlessly destroy it and break open the eggs. It is only when the young bird is full grown that he can hope to escape the vindictive pursuit of his elders; and even then, should he cross an older turkey in his love making, he will have to fight for his life.

It is usually toward the latter part of October that the birds move about the country in search of food. The little ones prefer berries and worms, but the old birds are ravenously fond of wild grapes and the oily pecan-nuts. Upon these they providentially fatten and become tender and juicy in time for Thanksgiving and Christmas dinners. It is noticeable that the turkeys always proceed on foot, never taking wing unless forced to do so by some such obstacle as a river.

Man, of course, is the wild turkey's most destructive foe ; but besides man it has other enemies, who display their love of good eating by constant warfare upon the succulent bird. The wild cat and the owl are the most dreaded by the turkey, because these two can reach it even in its place of security—the high branches of the cotton-wood tree. The wild-cat it can avoid if it becomes aware of its presence, but the owl is more difficult to escape from.

According to Audubon, who is an undoubted authority, the turkey, in its endeavor to escape from the owl, has recourse to an expedient which, by way of contrast to its usual dullness, is exceedingly bright. The snowy owl is the particular bird mentioned in Audubon's account. The sight of one of these white prowlers—it hunts by daylight—is always the signal for a violent commotion among the turkeys. A continuous rolling gobble breaks out, and each individual shifts his position, and follows with uneasy eye, the silent sailing motion of the enemy. Suddenly the owl has singled out a victim, and with a swoop is bearing swiftly down toward the quarry with eager claws outstretched. At once every turkey makes a lurch forward, and spreading out the tail feathers, presents a broad, slippery, unstable shield, against which the disappointed owl dashes with futile fierceness.

HOW TO STRENGTHEN THE MEMORY.

THE memory is strengthened most easily and quickly by commencing to learn poetry ; after a while prose sentences should be tried ; then lectures, and, at last, the most difficult scientific works, including scientific lectures.

Every day, the student in this department of mental culture should learn something so he can repeat it correctly. This is of great importance. He may begin with a few things and increase his task for a while only one line each day. In a short time it will become sufficient without any further increase, and make his daily task quite enough for his strength.

Committing to memory takes place most rapidly when it is done in silence ; but if other thoughts press in on the mind, a low voice aids the student in holding his mind to the task. The two-fold mental action, that of hearing and speaking at the same time, assists to arouse the slumbering faculty, though the voice be only a whisper.

One should frequently test himself to see that what he has gone over is held in the mind, and that which is lost should again be impressed upon it.

It is not to be expected that in ex-

ercising the memory one shall have the time or even be able to memorize everything word for word ; but it is well to do this at first on some things, and this is especially desirable for the young. Learning by heart every word is a very useful exercise for one who has a weak memory. It is important that one understands thoroughly what he undertakes to retain in his mind. What is not understood is soon lost ; what is thoroughly understood is not easily forgotten. The most suitable time to cultivate the memory is in the evening when the light is low, and the mind not readily drawn off by other matters, or in the early morning soon after awakening, when the intellectual faculties are fresh. Cato and Cicero practiced on this plan and strengthened their memories by repeating, either in the evening or the following morning, the events of the preceding day.

The memory should be exercised at regular periods of time ; but these periods should neither be too far apart nor of too long duration, neither should they be too frequent. The danger in violating these rules is, that the mind becomes confused and the things to be remembered entangled one with the other.

To remember a series of things most easily and correctly, they should be carefully arranged in the mind, and their natural connection with each other be made as perfect as possible. In this way the one suggests the other, and the whole can be taken in, as it were, at one glance.

Things that are difficult to fix in the mind we may look at in connection with some external sign, or a line under the word or sentence, a note on the margin of the page, written with a red, green or black pencil, and the fact, joined with the color, and thought of in connection with it. Sometimes we may remember a difficult thing by picturing in the mind's eye the first letter, syllable or word, or, if there are several things, by connecting the first letter of each sentence into a word, or the word into a sentence, and committing this to the memory.

If a lecturer or preacher is to deliver an unwritten discourse in some place, it will make it easier for him to connect in his mind the different parts of his dis-

course with some of the prominent features of the town or building, and taking them in their order, proceed to the end.

If a recitation is to be made from some author, not only commit it to memory, but listen to it attentively as another reads it, and guard against making additions of your own.

In committing to memory a poem, if one wishes to do it quickly, read each verse carefully over several times, and then endeavour to write it down correctly. If not successful in this, write down the first words of each line, or even the first letters, one under the other in order, and then in repeating the whole verse, if need be, glance at the first word or letter when the memory fails, when the whole will likely be suggested.

In copying anything from an author, it is a good memory exercise to write a whole sentence after having read or heard it once.—HERMANN ROTHE, translated by C. HOLBROOK, M. D.

THE HIGHER EDUCATION OF WOMEN.

THE question of whether or not a woman should learn the alphabet having by general consent been decided, in this country at least, very positively in the affirmative, the effect of a college course upon her physical health deserves and has received serious attention. The essay by Dr. Clarke on Sex in Education has had a good influence in indicating the only method in which her energies and efforts may be directed in obtaining her education with safety to her physical organism, and in showing incidentally that, if wisely controlled, college privileges may be enjoyed and utilized by women equally with men. Two years ago the Dean of the Women's Medical College of Philadelphia, after making enquiry among the alumnae, ascertained that the health of the graduates of the school, far from being injured by their studies and mode of living, appeared to be really improved by the culture it entailed and the career of usefulness which had been opened to them. This really might have been anticipated if the criticism of Miss Martineau, that the feeble condition of American women was attributable to the vacuity of their minds, had any foundation in fact. Women

are like men in being healthier and happier when pursuing some well-defined and worthy purpose in life.

From a recent investigation by the Massachusetts Bureau of Statistics of Labor it would even appear demonstrated that mental labor is better suited to women than physical. Certainly, at least it seems established that there is nothing injurious to the health of women in a severe course of study. Of the twelve hundred and ninety women graduates of colleges in this country, seven hundred and five replied to the schedule of questions sent out by the Bureau: and, as these are the first detailed statistics concerning the health of this class of American women, their replies afford information upon several points of interest. From them it appears that seventy-eight per cent were in good health upon entering college, at the average age of 18.35 years; in two per cent. health was fair, and in twenty it was poor. Deterioration in physical health during the course was observed in 19.58 per cent., amelioration during the same period in 21.13 per cent., the difference being 1.55 per cent. in favor of the college course. The most prevalent cause of disorder-

among those who studied severely during college life was constitutional weakness. Thirty cases of cerebral affections were reported, and twelve of eye-trouble; possibly some of the cases reported as brain-disorder belonged properly to the latter group. In conclusion, the Bureau of Statistics states that "the facts which we have presented would seem to warrant the assertion that the seeking of a college education on the part of women does not in itself necessarily entail a loss of health or serious impairment of the vital forces. Indeed, the tables show this so conclusively that there is little need, were it within our province, for extended discussion on the subject. The graduates, as a body, entered college in good health, passed through the course prescribed without material change in health, and, since graduation, by reason of the effort to gain a higher education do not seem to have become unfitted to meet the responsibili-

ties, or bear their proportionate share of the burdens of life."

The *Nation*, in commenting upon this, justly remarks that "Americans have not yet attained the robustness and vigorous color of the parent race, but they can no longer be regarded as a nation of invalids. The fragile and chalky young ladies who were in fashion twenty years ago have given place to young women of clear, bright color and healthy, vigorous step; the hollow-chested ministers and the lean and sallow business-men of a former day have passed away, never, let us hope, to return." Among the immediate causes of this improvement we would award a high rank to the persistent and disinterested teaching of the members of the medical profession, both men and women, notwithstanding the apparent intimation on the part of the *Nation* that the latter are chiefly "engaged in swelling the death-rate."—*Philadelphia Medical Times.*

THE SKIN.

There's a skin without and a skin within,
A covering skin, and a lining skin;
But the skin within is the skin without,
Doubled inward and carried completely through-
out.

The palate, the nostrils, the windpipe and
throat,
Are all of them lined with this inner coat
Which through every part is made to extend,
Lungs, liver and bowels from end to end.

The outside skin is a marvelous plan
For exuding the dregs of the flesh of man,
While the inner extracts from the food and the
air
What is needed the waste of the flesh to repair.

Too much whisky, brandy and pin
Is apt to disorder the skin within;
While, if dirty and dry, the skin without
Refuses to let the sweat come out.

Good people all, have a care of y ur skin,
Both that without, and that within;
To the first give plenty of water and soap,
To the last little else but water, we hope.

But always be very particular where
You get your water, your food and your air
For if these be tainted or rendered impure.
It will have its effect on the blood, be sure.

The food which will ever for you be the best
Is that you like most and can soonest digest.
All unripe fruit and decayin' flesh
Beware of and fish that is not very fresh

Your water, transparent and pure as you think
it,
Had better be filtered and boiled ere you drink
it,
Unless you know surely that nothing unsound
Can have got to it over or under the ground.

But of all things the most I would have you
beware
Of breathing the poison of once-breathed air—
When in bed, whether out or at home you may
be,
Always open the windows and let it go free.

With clothing and exercise keep yourselves
warm
And change your clothes quickly, if caught in
a storm
For a cold caught by chilling the outside skin
Flies at once to the delicate lining within,

All you who thus kindly take care of your skin
and attend to its wants without and within,
Need never of cholera feel any fears,
And your skin may last you a hundred years.

JOSEPH POWER in *Pall Mall Gazette.*

FOOD ADULTERATION—ITS PREVALENCE—HOW TO CHECK IT.

IN looking over the last report on the adulteration of food, by the Commissioner of Inland Revenue, we learn something about how consumers are defrauded by dishonest traders. We shall endeavour to awaken a greater interest in this important subject, and to induce the public to assist the Department of Inland Revenue in the efforts now being made to suppress this most glaring evil of food adulteration.

We find that in Montreal, while one dealer, W. T. McCulloch, sold a "pure coffee of good quality," at 23 cents per pound, and another of "good flavour," at 30 cents, every other dealer of the twenty-four, from whom coffee was purchased and examined, sold an adulterated article. The "Canada Co-operative Store" sold coffee, at 30 cents per pound, "adulterated with chicory." N. Aubin sold a compound "largely adulterated with chicory, roast corn and peas," at 35 cents per pound. J. J. Kavanagh sold a so-called coffee, "largely adulterated with chicory and pea meal"—over 30 per cent.

Thomas Lamb, Charles Barbeau, P. Leault, and most of the others, sold such "largely adulterated" (this means probably from 25 to 30 per cent.) with chicory, roasted corn and peas.

In Toronto, coffee drinkers labour under equal disadvantages. The coffee from the "Dominion Tea Company" was adulterated with about 20 per cent of chicory. Fisher & Co., J. B. Ross, W. B. Cherry, W. Radcliffe, G. & W. Lamb,

and D. J. Polchard sold a "pure article." These six were the only ones out of the 24, from whom samples were obtained and examined who sold a pure article. R. Gray sold coffee adulterated with from 50 to 60 per cent. of chicory and peas; Mrs. Mauthier, with from 60 to 70 per cent. of chicory and roasted grain; T. Heinrich, with from 50 to 60 per cent. of chicory; and S. Leanord, with from 40 to 50 per cent. of chicory; the others all sold an article containing from 15 (only two, so small a proportion as this) to 25, 40 and 50 per cent. of chicory, chicory and roasted grain, or roasted farinacious matter.

In Quebec there were more pure samples than in Toronto and Montreal—nine out of the twenty examined being unadulterated. In Halifax, only one sample out of twenty was reported pure, and adulterations with chicory and peas were as high as 75 per cent. The Haligonians, we are sorry to inform them, are apparently defrauded in their coffee to a greater extent than the people of any of the other cities reported. In St. John, they suffer less in this way than in any of the other cities, only three samples out of twenty being impure. In London they are nearly as well off as in St. John.

How long will people tamely submit to this system of swindling. A general uprising by the public, and especially by the press, would soon put an end to it.

THE EDITOR.

RESULTS OF SANITARY WORK.

THE following paragraphs I find in the *Sanitarian* from Dr. Baker, the energetic Secretary of the Michigan State Board of Health, who was eminent as an experienced sanitarian before being appointed by the State Legislature to the position of Secretary of the Board:

Sanitary authorities have claimed that the sanitary work which they have recommended to be done as a preparation for cholera, such as preventing and abating nuisances; attending to drains, sewers, privies, and cesspools; cleaning up generally, and unusual carefulness in regard to foods and drinks, would reduce the sick-

ness and deaths from other diseases, even if cholera did not come. The weekly reports for July, 1885, to the Michigan State Board of Health, by physicians in different parts of the State, indicate that this claim is being realized in Michigan, so far as relates to the lessened sickness, it having been lessened from nearly every disease, and greatly lessened from fevers and from diarrhoeal and other diseases believed to be especially influenced by sanitary conditions; and this is true notwithstanding that the meteorological conditions in that month were rather more than usually unfavorable to health. It is

proper to state, however, that the sickness in any month is influenced by the meteorological conditions in the preceding month, and that the meteorological conditions in June, 1885, were favorable to health.

Observations in Michigan for many years have shown that in July the meteorological conditions especially unfavorable to health are high temperature, excessive humidity of the atmosphere, and deficiency of ozone. The *Bulletin of Health*, in Michigan, July, 1885, says: "For the month of July, 1885, compared with the average of corresponding months for the seven years, 1879-1885, the temperature was slightly higher, the absolute and the relative humidity were more, and the day and night ozone were less."

"Compared with the average for the months of July in the seven years, 1879 to 1885, remittent fever; intermittent fever, dysentery, consumption of lungs, cholera infantum, diarrhoea, cholera morbus, measles, and whooping-cough, were less prevalent in July, 1885."

A large part of this decrease in sickness has undoubtedly been due to the medical and sanitary journals and the newspapers, which have constantly kept before the people the necessity for sanitary work, and the facts as to the spread of cholera in Europe.

It remains to be seen to what extent efforts for the exclusion of cholera from this country, and the general preparation for cholera by boards of health and the people, shall prove effectual; but even if cholera shall not be entirely prevented, there will remain the belief that the measures which have so greatly decreased the sickness from other diseases cannot but have their influence in decreasing it; and if cholera does not occur in this country, it seems quite probable that, by reason of the suffering elsewhere, there may be as many cases of serious sickness prevented in this country as there have been cases of cholera in Europe. But this may not continue without continued vigilance and effort.

M.

RELATIONS OF SCIENCE TO THE PUBLIC WEAL*

BY SIR LYON PLAYFAIR, K.C.B., M.P., F.R.S.

OUR last meeting at Montreal was a notable event in the life of the British Association, and even marked a distinct epoch in the history of civilization. It was by no mere accident that the constitution of the association enabled it to embrace all parts of the British empire. Science is truly catholic, and is bounded only by the universe. No part of the British empire was more suited than Canada to try whether her science could be federated with ours. Canada has lately federated distinct provinces with conflicting interests arising from differences of races, nationalities and religions. Political federation is not new in the history of the world, though it generally arises as a consequence of war. It was war that taught the Netherlands to federate in 1619. It was war which united the States in America; federated Switzerland, Germany and Austria and

unified Italy. But Canada formed a great national life out of petty provincial existences in a time of profound peace. This evolution gave an immense impulse to her national resources. The Dominion still requires consolidation in its vast extent, and applied science is rapidly effecting it. Canada, with its vast expanse of territory, is being knit together by the iron bands of railways from the Gulf of St. Lawrence to the Pacific Ocean, so that the fertile lands of Ontario, Manitoba, Columbia and the North-western Territories will soon be available to the world.

It was with a far-reaching foresight that the Canadian Government invited the British Association for the Advancement of Science to meet in Montreal. The inhabitants of Canada received us with open arms, and the science of the Dominion and that of the United Kingdom were welded. We found in Canada, as we had every reason to expect, men of manly and self-reliant character, who loved not less than we did the old home from which

*Inaugural address of the President of the British Association for the advancement of Science, at the Aberdeen meeting, Sept., 9th 1885.

they had come. Among them is the same healthiness of political and moral life, with the same love of truth which distinguishes the English people. Our great men are their great men; our Shakespeare, Milton, and Burns belong to them as much as to ourselves; our Newton, Dalton, Faraday, and Darwin are their men of science as much as they are ours. . . .

No doubt science, which is only a form of truth, is one in all lands, but still its unity of purpose and fulfillment received an important practical expression by our visit to Canada. This community of science will be continued by the fact that we have invited Sir William Dawson, of Montreal, to be our next president at Birmingham.

LIFE EXPECTATION.—*The Journal of Commerce* (Montreal) thinks that the experience of the life companies in Canada has been large enough to furnish an independent mortality table, and that the work ought to be undertaken. It says, "If, as we believe our mortality is lower than the mortality of the United States, we would by all means like to have the fact demonstrated beyond any doubt. Our plea that the frugality, carefulness, and industry of Canadians make them more desirable as insurance risks than residents of most other countries, would thus either be dispelled as an illusion or confirmed beyond any further doubt or question. Our premium rates, that are lower than the rates charged by conservative companies in other countries, would thus receive their condemnation or would be verified as abundantly large enough to cover our risks. In any event, it would be a good thing to settle this question beyond the shadow of a doubt, and therefore—having the interests of our home companies at heart—we say, let us, by all means, have a Canadian table of mortality.

INTERESTING FINDS IN POMPEII.—In entering Pompeii, says a recent writer in "Chambers' Journal," "we descend a slopping path to the silent city, which stands between two enormous embankments of ashes, like a very deep railway-cutting, and enter by the great gateway, with arches and pillars in perfect preservation. Through a small arch at the side, intended for foot-passengers, we pass into the deserted streets; from the high, narrow footway we see the tracks of wheels on the paved street below; and the great stepping-stones are still there, as in the days of old. Everywhere stand the remains of sculptured fountains—at the street corners, in every house, in every square. A number of converging

streets lead into the Forum. Here are the perfect remains of beautiful temples with their marble columns and sculptured altars, on which the inscriptions may still be read. On some are delicate carvings representing sacrifice, in high-relief, with every detail clear and sharp as when first chiseled. We go through the street of the soap-makers and visit the large soap-works, where the huge iron caldrons are still left. Another street is full of wine-shops, with the large red jars still inserted in the marble counters. Then we pass the city bake-houses, where ovens were found full of charred bread, which is now in the Naples Museum, the baker's name stamped upon each loaf. Close by are the splendid public baths, with every appliance for hot, cold, and vapor baths, the pipes and cisterns still remaining. Near the entrance-gate is a small museum containing the skeletons found in the city—a mother and daughter clasped in each other's arms; a sentinel found at his post; a man evidently knocked down by the cloud of ashes; and several others. Some of them have been injured in the process of excavation. When a skeleton is found, hot plaster-of-Paris is immediately poured into it, so that while preserving the skeleton intact, it gives also, by filling up the impression or mold of the body that had lain there, the form and features of the living man. A large collection of surgical instruments greatly interested a celebrated physician who was one of our party, and who expressed unbounded surprise at the very slight difference between these relics of the infancy of the medical science and the instruments in use at the present day. Some large cases of dentists' tools caught our eye also. . . . A great number of paint-boxes are displayed, which still contain the same, bright, soft colors that we see

on the walls of Pompeii; and case after case of jewels, some found in the house, others evidently dropped in hurried flight from the burning city, or fallen from the necks and arms of the skeletons."

Dr. Oliver Wendell Holmes spoke the truth when he said, "it is a sin to be sick." You are wicked if you permit yourself to become sick through the neglect of well known sanitary regulations; your town or city authorities are to be blamed if they do not use every effort to keep the streets clean, and compel house holders to keep their premises free from filth; the state legislator and governor fail in their duty if they do not pass and enforce laws which will lessen the death rate of the State.

RUBBING SWELLINGS AND BRUISES.—When a thorn pierces the flesh, or an insect bites or stings us, we instinctively rub the part. Why? Whenever

"The boy who rides upon the pig
Is made to feel the beechen twig"

he claps his hands on the twigs that smart and rubs them vigorously. Why? For the reason that the normal condition of the vital fluid has been interfered with, and Dame Nature prompts the use of the hand, by way of rubbing, to maintain the natural circulation.

When the flesh is bruised, the blood is obstructed in its passage through the tissues of the fleshy parts of the body. By rubbing immediately, before the blood has time to coagulate, the natural passages are kept open and the normal circulation will be maintained. By forcing the blood all out of the bruised part, fresh blood will immediately flow in, and the injury to the flesh will be repaired much sooner than if the affected part was not rubbed.—*Herald of Health.*

HABITS OF WALT WHITMAN.—The *New York Sun*, in an interview with Walt Whitman, brings out the following: "My health? Well, though in apparently good health and spirits I am really a half paralytic, and closely adhere to my home and rooms. My income is just sufficient to keep my head above water, and what more can a poet ask? Wealth and luxury would destroy my working force. As it is, I am 67 years old, and still in the harness, writing from time to time. I fear not death. Socrates uttered the greatest truth when he said: "No evil can befall a good man, whether he be alive or

dead." I am an old bachelor who never had a love affair. Nature supplied the place of bride with suffering to be nursed and scenes to be poetically clothed. Twelve years ago I came to Camden to die; but every day I went into the country and, naked, bathed in sunshine, lived with the birds and the squirrels, and played in the water with the fishes. I recovered my health from Nature. Strange how she carries us through periods of infirmity into the realms of freedom and health. I write three hours per day, haunt the Delaware River most of the time, live well and don't use tobacco."

RESTORATION OF LIFE.—Dr. Richardson (*Popular Science Monthly*), has started the question whether life may not be restored after actual death, and relates some facts that point to the answer as being in the affirmative. By combining artificial circulation with artificial respiration, a dog was restored to life an hour and five minutes after having been killed by an overdose of chloroform, when the heart had become perfectly still and cold, and was passing into rigidity. Animals that have been killed by suffocation and partially dissected were brought to such a state of muscular irritability that the experiment was stopped for fear that they would return to conscious sentient life. Frogs poisoned by nitrate of amyl were restored after nine days of apparent death, in one case after signs of putrefactive change had commenced. The action of peroxide of hydrogen in reanimating the blood and restoring heat in a really dead body is quiet startling. From these observations, Mr. W. Mattieu Williams thinks the conclusion is justified that "a drowned or suffocated man is not hopelessly dead so long as the bodily organs remain uninjured by violence or disease, and the blood remains sufficiently liquid to be set in motion artificially and supplied with a little oxygen to start the chemical movements of life."

VALUE OF FRUIT AS FOOD.—The "Lancet" regards the increased use of fruit in ordinary diet as one of the most salutary tendencies of domestic management in our day. The starchy and saccharine components of fruit, while they are not equal in accumulated force to the more solid ingredients of meat and fat, are similarly useful in their own degree, and

have the advantage of greater digestibility. Other advantages are the locally stimulant action of many sub-acid fruits, its control of a too active peptic secretion, and its influence of attraction upon the alkaline and aperient intestinal juice, to which further effect that aid the maintenance of a pure and vigorous circulation are indirectly due. "Thus it follows, on the simplest principles of physiology, that other essential organs, such as the skin and kidneys, are relieved by the transference of part of their excretory function to the bowel and act with greater ease, the general vascular system is lightened by this regulating drain, and its faculty of absorbing the waste products of food and work is encouraged in proportion." Only persons of gouty and rheumatic habit, or of tendencies to diarrhoea, dysentery, or saccharine diabetes, will be likely to find fruit in any moderate quantity to disagree with them, while dyspeptic persons will find it almost wholly beneficial.—*Popular Science Monthly*.

THE PREVENTION OF EPIDEMICS.—Dr. Ezra M. Hunt (*Brit. Med. Jour.*, March, 1885), in a studied paper, gives the following:—1. In the study of contagium vivum, we are to recognize not only change from culture or attenuation, but as in plant life and animal life, to recognize manifold changes which may take

place, so discursive as to obscure identity and so as to make what in pathology and treatment, may be a new disease without involving the doctrine of spontaneous generation. 2. We must give significance to the effect of imparting a disease to the system by channels, or modes of introduction different from what may be called its normal method of entrance, and allow for modification from this cause without any real attenuation. 3. We must study closely, not only the general effects of surroundings, but the fertilization of rankness which certain diseases attain from a compost especially adapted to them. 4. We need, with the same precision, and in a similar direction, to ascertain what are conditions of individuals who furnish in themselves extraordinary soil for communicable diseases, or who withstand seizure amid exposure, or have but a mild attack, and to recognize that there are ascribable reasons for this difference, a definite law of susceptibility. 5. We need to give great prominence to a study of direct prophylactic methods, and such as shall seek, during exposure or the prevalence of an epidemic to prevent an attack, by imparting to the blood and tissues the presence of such substances as shall prevent those changes which an introduced morbid agent would otherwise set up.

THE OLD YEAR.

Time passes on his way before us,
King of each perishable year;
We listen to the dying chorus,
Yet heed not the veteran seer.

When childhood's days of joy were for us,
We revered the aged year,
And sung with glee its dying chorus,
Thoughtless of the veteran seer.

Pleasuring youth alone inures us
To many vices of the year,
And while we chant its dying chorus,
Laugh to scorn the veteran seer.

The weight of years we see roll o'er us,
And feel its trace with sacred fear;
More solemn grows the dying chorus,
As death obeys the veteran seer.

J. A. MACPHERSON, L.L.D.

VACCINATION AND ISOLATION AS PREVENTIVES AGAINST OUTBREAKS OF SMALL-POX.

AT the eighth congress of the Sanitary Institute of Great Britain, held at Leicester, September 22nd to 26th, 1885, Surgeon-Major R. Pringle, M. D., late Sanitary Department H. M.'s Bengal Army, read a paper on the above subject.

In discussing the above, Dr. Pringle remarked that small-pox, as met and defeated by vaccination, occupied a unique position under the head of preventive medicine, adding that the subject possessed a peculiar, indeed special, interest and importance to the town of Leicester, where the Sanitary Institute of Great Britain was holding its annual Congress, the inhabitants of this town, as was pointed out, being under the impression that by means of isolation the sanitary committee had succeeded in "stamping out" small-pox, and they were enabled thereby to prove that vaccination was not necessary, if they had conscientious scruples regarding its adoption. Dr. Pringle, while fully admitting, from the result of his own experience at Morar-Gwalior in 1863, when vaccination was not practicable owing to the heat of the weather, that it was quite possible to stamp out small-pox in a given locality by isolation and treatment of the cases, and disinfection or destruction of all substances likely to retain or convey contagion or infection, clearly showed that this success in Leicester in reality depended, not so much on isolation, as on the benefits conferred in past years by vaccination, which, notwithstanding all the charges brought against it, thus returned good for evil by limiting the number of cases to be treated and isolated, and as a natural consequence the amount of contagion and infection to be destroyed.

Dr. Pringle, after quoting from Mr. Alderman Windley's (the chairman of the sanitary committee of Leicester) letter to a provincial journal, argued that a possibility of carrying out these preventive measures with any hope of success depended on the cordial assistance and concurrence of all concerned, and particularly of the family in which the case of small-pox might appear.

The following were the measures alluded to in Mr. Windley's letter of February 1885, and as they are the basis of the preventive measure termed isolation, as opposed to vaccination, they were given *verbatim*:—"I may say we not only remove any case of small-pox to hospital at once, but we also persuade all the persons who have been found in the house at the time to take up their abode in a separate ward at the hospital for fourteen days' quarantine, in the meantime thoroughly disinfecting bedding clothes, and house from which the patient was removed."

Dr. Pringle remarked that, short of vaccination, nothing more was wanted to stamp out the disease, and that, thanks to the vaccination *outside*, limiting the number of cases to be treated, he was not the least surprised to hear that these measures were eminently successful. In passing, Dr. Pringle said this success in stamping out of the most infectious and contagious of known eruptive fevers augured well for the protection of Leicester from an outbreak of cholera, if the scourges should come to this country, since, if local sanitation were as carefully carried out as this system of isolation, and the general health of the inhabitants were good, cholera would find no footing in Leicester. The possible instance which Dr. Pringle gave of an arrival in Leicester, with small-pox in his family, objecting to these sanitary measures as an interference with the liberty of the subject, points out a source of danger to the community, which they would do well to consider ere it be too late, as the compliance with these sanitary requirements appeared, judging from the Alderman's letter, a question of *persuasion*, not *compulsion*. Dr. Pringle, as the result of his thirty years' experience of small-pox, and vaccination in India, which may be called the home of small-pox, presented an alarming picture of what might happen any day at Leicester, and which nothing but the, to the inhabitants of that town, dispensed benefits of vaccination has prevented happening long ere this. In describing small-pox as a universal disease in India, where inoculation was not

practised, or vaccination was not general, Dr. Pringle alluded to parents in villages suspected of female infanticide bringing their girls to be vaccinated, when he introduced the prophylactic in 1864, in the hopes that they would die from the operation; but when the reverse was the case, and many of the boys were carried off by small-pox, while the vaccinated girls escaped, they changed their tactics, and left the girls unvaccinated to die of small-pox, when questions were not asked. Dr. Pringle added he had brought this subject to the notice of the magistrate of Saharanpur.

As regards vaccine statistics, Dr. Pringle, judging from his experience in the North-West provinces of India during the past twenty years, considered them, taken as a whole, as not only unreliable, but as absolutely misleading; adding, that after his exposure of this systematic practice of false returns in 1880 (which, however, had been entirely suppressed), the Government of India on all the facts coming to their knowledge, stigmatized these statistics as a 'wholesale fabrication of returns.' Dr. Pringle would therefore have nothing to do with statistics; and until the birth-rate was approximately reached for a series of years, in large towns or districts, he considered vaccine returns were valueless and deceptive. When this was reached, however, if small-pox appeared, except in a few unvaccinated cases, the work was bad or the returns false, or both; this, he remarked, he had proved incontestably.

As regards re-vaccination, Dr. Pringle stated that he could quite understand how alarming results often followed the insertion of what was called calf-lymph, but which in too many cases was only serum, the result of the local inflammatory action forcibly squeezed out by the clamps fixed on the vaccinal eruption, the first portion thus forcibly exuded—viz., the vaccine lymph having been all taken first; he could therefore clearly see how the careful insertion into the system of this product of inflammatory action—viz., this serum—in the instance of a full-blooded, perhaps well-fed and stimulated, adult, without preparation or caution of any kind, even as regards diet or exercise, might produce alarming results. Dr. Pringle himself never practiced re-vaccination among the natives in India: and if he did it at all in this country, he

remarked, it would be to "pick up bad work." He considered re-vaccination the joint in the vaccine armour, through which alone it could receive what he viewed as a fatal and humiliating wound.

Much of the opposition to vaccination, Dr. Pringle observed, would be found to lie in the trouble and distress undergone by the parents when their children suffered from unhealed, it might be ulcerating, vaccine cicatrices, due too often to the vesicle being injured, and then heat, flies, and dirt lighting up a severe inflammatory action; and he laid great stress on the following, viz.:—That if this was the outcome of submission to a compulsory enactment, it was the duty of the State to supply a gratuitous and ungrudging medical attendance on these cases. Then these people, he remarked, would see some more interest was being taken in them, and that that, designed and compulsorily carried out to protect the public from small-pox, was done in a manner to minimise the suffering to the child, and labour to the already, it might be, over-worked parents.

As regards the introduction of other diseases with the vaccine lymph, Dr. Pringle had never in his extensive practice seen a single case of this, and he was satisfied that what was often witnessed in these cases was due to that which was inherited and not inserted. All his operators, numbering nearly two hundred, used fresh lymph, and nothing else, for which they were alone answerable, taken by themselves from their own operations, and he maintained that what could be done in India might be done here, and instanced many places in this country where the medical officer kept up his own supply of vaccine lymph, and had been resident for some years in the district in which small-pox was unknown.

Dr. Pringle has seen both cholera and small-pox epidemics in India, that home of these two scourges, and he remarked that ignorance of the latter had produced indifference to its consequences. He stated, however, as a warning to Leicester that he had seen both these pestilences claiming their victims in vast numbers, and that, to his mind, there was no comparison between these awful scourges—the unrecognisable victims of the most loathsome of known

diseases could not be compared with those of cholera, where the strong and healthy were struck down as if in battle by an invisible blow or wound, and if they recovered they resumed their journey with constitutions only temporarily weakened, as he knew from his own experience, and not in the least permanently affected. In small-pox it was totally different. What with blindness, debility, and lameness in India, life to many a Hindoo boy in that land of scarcity and caste was too often a burden, and an unparapetted well or a huge cart-wheel in a narrow lane in the village too often ended the sightless, hence dependent, life of the poor Hindoo lad. With the Mahomedan it seemed to be different. Without caste, they can be fed more easily and looked after better, and the numbers of sightless old men, such, probably, from childhood, seen in the villages near Boolandshur, testify what a scourge small-pox, when unchecked, may become.

DISCUSSION.

In the discussion that followed, Ald. Windley explained the course which had been adopted in Leicester for the prevention of the spread of small-pox, remarking that the town of Leicester was the first to obtain the 'Notification' Act, to which few objections had been raised. He agreed with the reader of the paper as to the worthlessness of vaccine statistics, and said that Dr. Pringle came to curse isolation, but had started by blessing it. (Hear, hear.) He said that before the Notification Act had been obtained for Leicester, and before they had any system of isolation, the following deaths had occurred from small-pox:—1852, 52 deaths; 1858, 53 deaths; 1864, 104; 1872, 346— which showed the periodical visitation of that dread disease. Since they had adopted the present system they had had no epidemic. They had had plenty of warnings as to what they might expect every few years, but he was glad to say that those warnings had not at the present been realized. They were glad that their system was being recognized by other medical officers of health; and what they had done there might very well be tried in other towns of the kingdom. In view of such a diminution of small-pox by the isolation method he thought that the inhabitants of Leicester might reasonably

ask the magistrates to mitigate the fine usually imposed upon anti-vaccinators.

Professor Corfield said it was necessary that isolation and vaccination should go together and be worked hand in hand, and anyone who knew anything about small-pox knew that the time must come when isolation without vaccination would be totally unable to meet the disease, and when that time came there would be a terrible awakening for the town of Leicester.

Sir Chas. Carron, medical officer for the City of Dublin, addressed the Congress, and in the course of a humorous speech said that there was no population more thoroughly vaccinated than the Irish people, and a population free from end to end from small-pox. He thought that too much had been claimed for vaccination. All that they could claim for it was it lessened susceptibility to contract disease when it was epidemic, and enormously lessened the chance of getting the disease, and he had found from investigation that in the cases of all persons vaccinated the disease ran a much lighter course. (Hear, hear.)

Dr. A. Carpenter said that with regard to statistics he could give them an item of personal experience. He, with twenty-five medical men, recently went down to the small-pox camp at Darent, where there were more than 1,000 cases of small-pox under treatment. They became permeated with the small-pox germ, and were there several hours, and came away, and not a single person afterwards became affected with small-pox. He should like twenty-five unvaccinated persons to go through that camp, and he would guarantee that four at least would take the disease. There was nothing so terrible and so horrible as the disease when it occurred in the confluent form in the unvaccinated.

Mr. J. T. Stephen addressed the meeting subsequently, and congratulated the sanitary committee on the *modus operandi* they had adopted for treating small-pox. He pointed out that cases of infection which had appeared in Leicester had invariably been introduced from other towns, and contrasted the state of the borough with the condition of other boroughs where vaccination met with little resistance. He thought the sanitary committee were going the right way to work, and he trusted

that they would continue to practice the methods that had been adopted, while he endorsed the suggestion of Alderman Windley that anti-vaccination should be treated a little more leniently by the magistrates.

Professor de Chaumont remarked the system of inoculation of the last century was certainly not a benefit to the community if it was to the individual, as the individual inoculated was often the centre of infection, and made the Government press forward the system of vaccination. The sudden and remarkable way in which the disease ceased and continued absent for many years was a distinct proof of the efficacy of vaccination, although experience has shown vaccine influence was not entirely protective throughout the whole course of life. He thought they might well congratulate the sanitary committee on what they had done. Their action had been admirable, but they were only carrying out what had been insisted upon by the medical profession for a long while. They had dealt successfully with fatal and contagious diseases, and he hoped their example would be followed throughout the country. They could not however say that that was a reason for giving up vaccination. The success attending what had been done in the borough ought to en-

courage all others, as far as possible, to carry out measures of isolation and other sanitary preventive measures which would tend to the diminution of the disease. He could not however, go so far as Ald. Windley, that was a reason for mitigating the penalties. The law ought to be carried out thoroughly, and he saw no reason why the cumulative penalties should be dispensed with. The only alternative, he thought, would be that the law should give power to the magistrates to order the child to be taken and be vaccinated, but unless the vaccination laws are properly enforced they had better be abrogated together, and leave vaccination to the common sense of the people.

Professor Ransome, referring to the remark of a previous speaker, as to the disease existing in one place and non-existent in another, said that many of them could remember that when the disease of small-pox was very prevalent in the Austrian army there was not a single case in an adjoining country.

Dr. Pringle afterwards said, in reply to Alderman Windley's remark that he had practised isolation in India, that the only expedient he had in the hot season was to isolate small-pox patients, but when he could vaccinate he vaccinated 2,200 children in five days.—*Sanitary Record*.

THE VEGETATION OF GUTTER-STONES. Dr. Hugo Winnacker, has devoted eleven full months to the study of this subject, and has published a paper on the "Vegetation of Gutter-Stones and its Relation to Infectious Diseases." The subject is one of no little importance, says the *Popular Science Monthly*, for, if the gutter of our streets really harbor infectious plants or germs, they are capable of being very dangerous agents for the spread of disease. Parts of them are exposed to being dried every day, and when they are in that condition the germs might be taken up by the wind and scattered everywhere, to become active whenever they are supplied with moisture. Dr. Winnacker has found that the vegetation of the gutter-stones consists of green algæ and fungoids. The algæ are harmless and even beneficial, for they grow over the fungoids and at their expense, and help

to keep them down. They should therefore be encouraged by not removing them, and by flushing the gutters, so as to supply them with the element favorable to their nutrition. Most of the fungoids likewise appear to be harmless, but some of them may be dangerous, and, as it is hard to distinguish their qualities, it is well to be on the watch against them. Two of the fungoid forms, quite abundant at Göttingen, are especially described. One, a micrococcus and ferment, grows in a reddish-brown coating from early in the spring till late in the fall. Another, a mold, grows in thick masses all the year round. The character of the vegetation may be different in different cities.

CHARITY is a service that the receiver should remember and the giver forget.

SMALL and steady gains give competency with tranquility of mind.

VENTILATION OF DRAINS AND HOUSE DRAINAGE OF CONTINENTAL TOWNS.

THE system, first initiated on the Continent in connection with new sewers at Frankfort, of ventilating them by means of surface gratings in the centre of the roads and of trapping the street gullies, is now the most prevalent, and has in fact been adopted in all the towns with which the author has been connected, with the exception of Linz. In Berlin, Breslau, and Dantzic it has also been adopted, although probably not to such an extent as in Frankfort, Stuttgart, Munich, Dusseldorf, and Crefeld. In all the towns in which the water-closet system is in vogue, and the closets are connected with the sewers, as in the towns just enumerated, with the exception of Crefeld and Stuttgart, the soil-pipes act both as ventilators to the house-drains and to the public sewers, and in this respect will probably meet with the condemnation of this Congress, as contrary to the commonly received and now prevailing opinion of English sanitarians, that all house-drains and pipes should be disconnected from the public sewers at a point between them and the houses. Whilst, therefore, the author may not defend the practice on principle, he is bound to say, that with thoroughly well-constructed sewers, such as he has described, without any dead ends, and with such ample provision for flushing and cleansing them, and a staff of workmen regularly employed exclusively on this duty, and with an equal amount of care bestowed on the designing of the house drainage itself, the system has so far been successful, that practically scarcely any complaints have arisen as to any of the surface gratings having become a nuisance. The circulation of air within the sewers, and the great dilution of it with atmospheric air through the open gratings, placed so numerous, as they have been in Frankfort and so many of the other towns, as to be only 40 yards apart, assisted as they are also by the rain-water pipes, has resulted in the sewer air being (if such a description can be applied to sewers) comparatively sweet. If anyone wished to inspect the Frankfort sewers, and desirous of avoiding what have been termed by visitors the show-places, where especially convenient staircases, &c., have been constructed, and would follow the

example of a Government and town commission from Munich, by marking on a plan of the town any points they might choose, and desire to be shown the sewers at these points, the author would be extremely surprised if they did not find the sewers comparatively free from smell, such as might be expected in the sewers of a thoroughly and completely water-closeted city of 147,000 inhabitants, with 26,900 water-closets joined on to the sewers. The 7,570 soil-pipes of cast-iron—all the new ones being varnished inside and outside, with Dr. Angus Smith's patent varnish—jointed with lead, carried through the roof with open tops, together with rain-water pipes, act as powerful up cast shafts, and materially assist in the ventilation of the street sewers, and in keeping up a continuous circulation and dilution of the air within the sewers and house-drains.

The author must, however, also state with reference to Frankfort that two special shafts, each 100 feet high, and of five feet internal diameter, were built at the two summits of the system to assist in the ventilation of the sewers, but that, whilst they are powerful ventilators within a giving radius, it would take a very large number of such shafts indeed to be of much service.

Very great attention has been paid to the character of the work in carrying out the house drainage in most of the towns which have been enumerated. Comprehensive and stringent regulations have been issued, and special offices established on behalf of the authorities, to check, correct and amend all plans sent in for approval, whilst a sufficient number of inspectors have been appointed to see every pipe laid. In the case of Frankfort, so far back as 1868, regulations, drafted by Mr Lindley and the author, accompanied by a series of drawings illustrative of the manner in which the drainage was required to be carried out, and of the character of the drawings, which would be required to be sent in by all persons proposing to drain their houses were issued. The use of varnished cast-iron water pipes was, the author believes, for the first time proposed in these regulations and made imperative for all drains,

soil-pipes, fall pipes from kitchen sinks, urinals, etc., of upper stories within the houses. It has already been stated that the soil-pipes are not disconnected, but act together with a large number of rain-water pipes as ventilators to the house-drains and public sewers. On the other hand, all the remaining branches passing into the interior of the buildings were cut off by a siphon placed outside the house in a circular brick shaft or manhole, 3 feet in diameter, with a proper cover to it as a means of access. This was subsequently abandoned, or at any rate not made compulsory by the magistrates of Frankfort, owing to siphons not being periodically seen to. The severity of the climate in winter made it impracticable to disconnect by delivering on to the surface gratings, and many explanations and reasons might be given on this head, which must be passed over in this paper.

The houses on the Continent are chiefly on the flat system, so that the kitchen

sinks and water closets were generally in tiers, one above another. This facilitated the extension of the soil-pipes and waste-pipes of the kitchen sinks, lavatories, baths, or urinals through the roofs, and this system was made obligatory by the regulations, so that the house of special pipes not infrequently carried up to the roof from the end of the house-drains.

Junction blocks and pipes were built in as the street sewers were constructed, and their position carefully noted and put on to the town plans, and in practice it was found that not more than about 2 per cent of the houses in Frankfort required other blocks or junctions than those provided. This the author considers of great importance in all well-regulated systems of sewerage, as nothing is more destructive or injurious to sewers than breaking into them for the purpose of making side connections, a matter in which some experience has been gained in Leicester.

CONSUMPTION IN CHICKENS.—A discovery has been made in France which gives us a useful lesson. At Charenton, a man sick with consumption was put in charge of a poultry yard, which in that county are very abundant. Shortly afterwards the chickens began to be sick and to die off in a strange way, and one of them was sent to the Veterinary School for examination. Its lungs and liver were filled with tubercles and bacilli, or germs. The fowls had evidently eaten the expectorated matter from their diseased attendant; at least this is the theory, and it seems reasonable, and adds to the evidence of the infectious nature of this disease, and also shows us that men and animals may each communicate their disorders to the other.

ON the evening of October 8th Dr. William M. McLaury lectured on "Cremation" before the New York Society of Medical Jurisprudence and State Medicine. He called attention to the fact that cholera, whenever it has visited New York, has always hovered about the vicinity of Trinity churchyard, and that two years ago typhoid fever prevailed there when it was not prevalent elsewhere. It was further stated that the oldest local physicians claim it to be impossible to

raise children on the ground floor of houses in Washington square, which was formerly used as a Potter's Field. Cremation, he maintained, would prevent the increase of these and like troubles, as fire was death to disease. Cremation, it was also shown, would prevent grave robbery and premature burial. Prof. J. L. Greenleaf objected to cremation from a sentimental standpoint, pointing out the beauties of country churchyards and "God's acres," and in retort Dr. Cole said that any amount of sentiment could be wasted in ashes, and that it would be more economical. Lawyer W. H. Russell said that the ground of economy was falsely taken, since, if cremation became a general custom, the market would be immediately flooded with ash urns of all styles and varieties. A committee was finally appointed to discuss the question of cremation thoroughly, with a view to placing the society either on the side of cremation or against it.

M. WITZ states, as the result of observations he has been making for some time on atmospheric ozone, that the proportion of ozone in the air of Paris last year was inverse to the mortality from cholera.

THE PUBLIC HEALTH.—THE LIVING AND THE DEAD.

MOST commonly when one learns of the death of a friend or a neighbor, one desires to know the cause of the death; yet comparatively few are interested in the causes which destroy the lives of the multitude of our fellow creatures who drop out of the way from day to day and are "no more seen." It is mainly through a knowledge of these causes that we learn to avoid and escape the pains and aches and life destroying influences of the "thousand and one" evils which mingle with our daily habits of life and, chiefly through our own acts, pervade our homes and environments. And who is there among us who does not want to avoid and escape these, and live in that comfort and ease of body and mind which it is impossible to enjoy when and where disease exists? Not one, we might answer. Why then will not every one take an interest in the mortuary statistics, which form the basis of sanitary proceedings? Why will not every one assist in the efforts which are being made to get perfect returns of all deaths, and births too, for these latter give an index of the degree of healthful progress in a community.

In estimating the mortality—the proportion of deaths, in any locality, it should be borne in mind that the natality—the proportion of births, should be taken into consideration at the same time. In a prolific community, with a large birth-rate, perhaps thirty or more per one thousand of population per annum, it is very apparent that the death-rate must necessarily be higher than in a community with a birth-rate of only twenty per one thousand, when both communities are living in like or similar conditions. Yet this point is rarely considered. For example, the usual greater mortality in the province of Quebec is often referred to in the other provinces, as showing more defective sanitary conditions in the former province, while overlooked is the fact that (as it appears) there is in Quebec a greater natality.

The following table of the mortuary statistics of twenty of the principal cities of the Dominion for October shows many points of interest. In it we see the terrible havoc which a malignant epidemic may soon make when it once gets, as it were, the "upper hand" in a city; small-pox destroying in one month in Montreal

1243 lives, little short of 130 per 1,000 of population per annum. In it it is shown that through neglect of well known sanitary precautions, chiefly neglecting complete segregation on the first outbreak, the mortality of Montreal reached an appalling proportion, more than four times greater than that of the sister city of Quebec, and more than six times greater than that of many of the other cities. From accounts which have come from Montreal during November, however, it appears plain that the epidemic had in October reached its culminating point, and that November will show a largely reduced mortality in that city.

In Toronto, there was only one death reported from small-pox; in Quebec, there were two; in Hamilton, four; in Sorel, eight; and in St. Hyacinthe, nine. Diphtheria prevailed rather extensively, it appears, in Montreal, Toronto, Quebec, Hamilton, Halifax, Ottawa and Chatham, and very severely in St. John. In Kingston there evidently prevailed during the month a severe epidemic of scarlet fever, ten deaths from this disease being reported from that city. From Kingston, St. Thomas, Guelph, Belleville, Fredericton and Galt, no deaths were reported from either fevers or diarrheal affections. From Charlottetown only a total of four deaths were reported for the month, and from Peterborough, six. It is possible these were all the deaths which took place in these cities, but it would be impossible to believe that such a low mortality could continue for two or three months in succession. It is found that for a short—but very short, period but a very small proportion of deaths may take place in a community, when there will be, later, what alone would be an unusually large mortality. It is a mistake to fail to report deaths, as sometimes it appears is done, in order to give to any town or place a seemingly low death rate. At best, it is likely the truth will come out soon or later, when matters will be all the worse for the concealment. We are reminded of the chief of a bureau of agricultural statistics, of whom it is said that, in the circulars issued to the reporters who make the returns, he requests that they "make a good show."

The 20 cities returned a total of 2,338 deaths—1,247 males and 1091 females.

NUMBER OF DEATHS WITH CAUSES AND SEXES.—MONTHLY STATEMENT.

MONTH OF OCTOBER, YEAR 1885.

CAUSES OF DEATH.	MONTREAL.			TORONTO.			QUEBEC.			HAMILTON.		
	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.
1. Zymotic—												
a Small-pox	661	582	1,243	1	1	2	1	1	2	3	1	4
b Measles	1	1	2				1		1			
c Scarlatina	1	1	2									
d Diphtheria	2	7	9	1	3	4	5	6	11	1	4	5
e Quinsy (tonsillitis)							1		1			
f Typhus, Enteric or Typhoid and simple contagious fevers	7	6	13	5	1	6	1	1	2	1	1	2
g Erysipelas												
h Puerperal Fever		1	1									
i Diarrhoeal Affections	11	14	25	5	3	8	3	4	7		1	1
j Rheumatism							1		1			
k Septicæmia (Pyæmia)	1	1	2									
l Remittent Fever				1		1						
m Malarial Fever												
n Syphilis							1		1			
o Alcoholism												
p Worms												
q Other Zymotic Diseases				1	1	2	2	1	3	1		1
2. Constitutional	28	22	50	11	9	20	6	15	21	7	3	10
3. Local	88	80	168	43	32	75	21	22	43	15	6	21
4. Developmental	52	37	89	23	15	38	23	16	39	5	4	9
5. Violent Deaths	8	4	12	3	4	7	2	2	4	3	2	5
Totals	839	756	1,615	160	68	168	68	66	134	36	22	58

CAUSES OF DEATH.	CHARLOTTE-TOWN.			GUELPH.			BELLEVILLE.			CHATHAM.		
	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.
1. Zymotic—												
a Small-pox												
b Measles												
c Scarlatina												
d Diphtheria										1	1	2
e Quinsy (tonsillitis)												
f Typhus, Enteric Typhoid and simple contagious fevers	1		1								1	1
g Erysipelas												
h Puerperal Fever												
i Diarrhoeal Affections												
j Rheumatism												
k Septicæmia (Pyæmia)												
l Remittent Fever												
m Malarial Fever												
n Syphilis												
o Alcoholism												
p Worms												
q Other Zymotic Diseases	1		1									
2. Constitutional		1	1		1	1	2	2	4	3	1	4
3. Local				1	3	4	3	3	6	2	1	3
4. Developmental		1	1	1	2	3	2	2	4	1		1
5. Violent Deaths				2		2	4		4	1		1
Totals	2	2	4	4	6	10	9	7	16	8	4	12

MORTUARY STATISTICS.

NUMBER OF DEATHS WITH CAUSES AND SEXES.—MONTHLY STATEMENT.—*Con.*

MONTH OF OCTOBER, YEAR 1885.

	HALIFAX.			WINNIPEG.			OTTAWA.			ST. JOHN, N.B.			KINGSTON.			ST. THOMAS.		
	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.
a																		
b																		
c													5	4	9			
d		2	2				1	1	2	6	4	10		1	1			
e																		
f	1	1	2	1	3	4	1	2	3	2	1	3						
g																		
h		1	1					1	1									
i	3	3	6	3		3	4	5	9	1	1	2						
j							1		1									
k																		
l																		
m																		
n	1		1															
o																		
p																		
q		1	1			1		1	1									
r	9	7	16	2	2	4	2	5	7	3	5	8	5	6	11	2		2
s	20	12	32	1	3	4	6	7	13	13	11	24	2	2	4	2	3	5
t	3	2	5	4	1	5	5	6	11	3	6	9	2	3	5			
u																		
v	2	2	4	1		1							1	1	2	1	1	2
	39	31	70	13	9	22	20	28	48	28	28	56	15	17	32	5	4	9

	SHERBROOKE.			PETERBOROUGH			SOREL.			FREDERICTON.			St. HYACINTHE.			GALT.		
	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.	M.	F.	Totals.
a																		
b																		
c																		
d																		
e																		
f					2	2	2		2									
g																		
h																		
i	1		1	1		1							1	1	2			
j																		
k																		
l																		
m																		
n																		
o																		
p																		
q																		
r	2		2	1	2	3	1	2	3	2	2	4	1	2	3	2	3	3
s	4		4				2		2		1	1	2	2	4	2	1	3
t		2	2										1	2	3			2
u																		
v																		
	7	6	13	2	4	6	10	6	16	4	7	11	12	14	26	4	6	10

EDITOR'S SPECIAL CORNER.

VACCINATION is in the air everywhere. It is wonderful how people take to preventives when the time for preventives is past. In an outbreak of small-pox, or any infectious disease, we regard isolation as of the first importance, because if one keeps away from the infection of the disease and so avoids it, one cannot take the disease; in other words, if the subject of small-pox is completely isolated and no person is allowed to go near the sufferer, the disease cannot spread. In practice, this is not always easy to carry out, though with a properly organized sanitary system it may be done. Vaccination may be regarded as coming next in importance to isolation, as a preventive of small-pox, and is a prophylactic of great value; moreover, it is one which has the merit of being practicable in the absence of any epidemic and before an outbreak. As Professor Corfield, at the recent annual congress of the Sanitary Institute of Great Britain said, it is "necessary that isolation and vaccination should go together and be worked hand in hand."

ISOLATION in its most perfect and practical form has been carried out during many years past in Leicester, England; in which city the recent congress of the Sanitary Institute was held. We have on several occasions referred to the practice there, and its most marked success. During the discussion on vaccination at the congress, in that city, one of the aldermen, after explaining the course adopted there, said, "Before the Notification Act had been obtained for Leicester, and before they had any system of isolation, the following deaths had occurred from small-pox:—1852, 52 deaths; 1858, 53; 1864, 104; 1872, 346—which showed the periodical visitation of that dread disease. Since they had adopted the present

system they had no periodical visitation and no epidemic. They had had plenty of warnings as to what they might expect every few years but he was glad to say that those warnings had not been realized. They were glad that their system was being recognized by other medical officers of health, and what they had done might very well be tried in other towns of the kingdom." We therefore urge upon the authorities in all towns and cities especially that while having public vaccination attended to, they should provide suitable buildings for the most perfect system of isolation, with disinfection, and also for having the health authorities notified at once on the occurrence of any outbreak. At Leicester they had had many outbreaks of small-pox, but the disease had not in any case spread.

WOMAN, Theodore Parker says, "I have always regarded as the equal of man—more nicely speaking, the equivalent of man; superior in some things, inferior in some others; inferior in the lower qualities, in the bulk of body and the bulk of brain; superior in the higher and nicer qualities; the moral power of conscience, the loving power of affection, the religious power of the soul; equal on the whole, and of course entitled to just the same rights as man; the rights of mind, body and estate; the same domestic, ecclesiastical and political rights as man, and only kept from the enjoyment of these by might, not right; yet herself destined one day to acquire them all." Most people we believe will agree with Dr. Parker in all but the "might, not right" keeping women from the enjoyment of her rights. Woman has been kept from the exercise of her political rights, for example, because it is so universally believed that with few exceptions she is happier as she is than she would be if she were engaged like man in political strife.

OBSERVATIONS AND ANNOTATIONS.

In the pamphlet by Sir Alexander Campbell, late minister of justice, on the case of Riel, we find the following; "It may be asserted with confidence that there never has been a rebellion more completely dependent upon one man; that had he at any moment so desired, it would have come to an end; and that had he been removed a day before the outbreak, it would, in all probability, never have occurred. A dispassionate perusal of the whole evidence will leave no room for doubt upon this point, and that this was his own opinion appears by his statement to Father

Andre." As relates to Riel's crime being a political one: "This ground has been most earnestly considered but the Government has been unable to recognize in the prisoner a political offender only, or to see that upon the evidence there can be any doubt that his motives were mainly selfish. On the contrary, it seems plain that he was willing at any moment, for the sake of gain, to desert his deluded followers, and to abandon his efforts for the redress of their alleged grievances if, under cover of them, he could have obtained satisfaction for his own

personal money demerits. It is believed that many who have espoused his cause must have been ignorant of this fact, for it seems incredible that any one knowing it could regard the prisoner as entitled to the character of a patriot, or adopt him as the representative of an honorable race."

IN the Smithsonian Institute, at Washington, is the small nugget of gold, a little larger than a pea, that first met the eyes of James Marshall in the sawmill raceway at Sacramento, and was the beginning of those discoveries in California that have added nearly \$1,500,000,000 in gold to the world's stock of the precious metals.

HARPER'S WEEKLY says Canon FARRAR'S lectures are notable for the quality and number of the audiences they attract, and the eloquent dignity of the Church of England will return home with his pockets full of "greenbacks."

AT THE CONGRESS of the Sanitary Institute of Great Britain, held in September last, Mr. Lewis Angell, M. Inst. C. E., Fellow of King's College, London, read a paper on "Impediments to sanitary progress," in which he explained that sanitary progress meant the elimination of extraneous preventable causes of disease, and the object of the paper was to illustrate some of the difficulties of putting into effective practice those abstract principles of sanitation upon which they were agreed. Among them he mentioned defective legislation and the inability to compel local authorities to do their duty. Repugnance of self-taxation was another great difficulty the sanitarian had to encounter. To the mere 'ratepayer' sanitary science meant officials, public works, and taxation, an investment which gave no dividend—matters which might be post-

poned. The value of health, comfort, and prosperity, or the loss of labour and waste of capital consequent upon disease and pauperism, were matters of social economy of which the average ratepayer took no account: He would endure poor-rates, and tax himself for beer, tobacco, and luxuries, but would not willingly submit to taxation for preventive sanitary measures.

MR. ANGELL concluded his valuable paper in the following words: "After all that was said about legislation, local bodies and officials by far the greatest impediment to sanitary progress was to be found in ignorance and self-interest. They had much more to hope from education than legislation or officialism. The principles of sanitation were a vital subject which should be taught in board schools, grammar schools and colleges. Neither public officers, local authorities, nor Parliament could accomplish reforms which should arise in ourselves. The efforts of the sanitary engineer, the medical officer, and the sanitary inspector, would miss their mark unless assisted by an intelligent appreciation of sanitary principles by the population at large."

THE CRITIC, Halifax, N. S. says, A few weeks since, a California journal stated that the French and English speaking populations of Acadia were on the eve of a great civil war. The *Toronto Week* of October 22nd, is informed by a correspondent on the spot, that 'Nova Scotia is on the brink of a repeal agitation, which nothing will stay save a broad Commercial Union with the States.' We were under the impression that our people were following their usual avocations in a quiet and peaceful state of mind, but evidently our fellow-countrymen are in for a hard time of it."

HOUSEHOLD HINTS.

FLOUR, like butter, absorbs smells rapidly. It should not be kept in a place where there are onions, fish, vegetables, or any decaying or odorous substances, exposed to a freezing temperature, nor to one above seventy degrees, and it always should be sifted before using.

CARPETS.—The general taste in carpets runs to brighter hues. In the styles brought out for winter furnishing the patterns are larger. As a rule, great richness of effect is aimed at by manufacturers. Among foreign carpets, as in domestic, there are superb novelties.

A **PICTURESQUE** effect is induced by draping the upper portion of portraits with Indian silk, with deep fringes.

The best effect for a dining-room are those in colours without gold.

TERRA COTTA, sage and dark browns are favourite colors in turcman carpets.

It is better not to put woollen carpets in the closets, as being dark and quiet, moths and other vermin are apt to collect. Straw matting or oil cloth is much more easily kept in order. Even heavy brown wrapping paper is not a bad substitute for a carpet in a closet that is but little used.

PRACTICAL RECEIPTS.

VEAL CHOPS—Cut veal from the leg or other lean part into pieces the size of an oyster. Season with pepper, salt and a little mace: rub some over each piece: dip in egg, then into cracker crumbs, and fry. They both look and taste like oysters.

SCALLOPED FISH.—Pick any cold fish carefully from the bone, and moisten with milk and an egg. Place in a deep dish with bread crumbs, a teaspoonful of anchovy sauce, 1 blade pounded mace, 2 teaspoonfuls butter, and salt to taste. Put the crumbs on the top, with butter, and brown in the oven. Serve very hot.

POTATOE CROQUETTES.—Take some finely mashed potatoes, and mix with salt, pepper, butter, and sweet milk or cream to moisten thoroughly, mix with this one well-beaten egg, and form into small balls, taking care to have them smooth; have ready one plate with a beaten egg upon it, and another with some finely rolled soda biscuits; dip each ball into the egg, and the biscuit crumbs; then put into the frying-pan and brown nicely; lay the croquettes on brown paper first, to get rid of any superfluous grease, then serve on a napkin.

MINCED VEAL.—To 3 pounds of uncooked veal, chop fine, add 3 beaten eggs, butter the size of an egg, 4 rolled crackers, and enough

pepper and salt to season well; $\frac{1}{2}$ grated nutmeg; mix. Press it into a crock or earthen dish and bake half an hour. When ready to serve, turn it out and slice down on a platter. Beef is good prepared in the same manner.

CHOCOLATE BLANC MANGÉ.—Take 1 oz gelatine, soaked in 1 cup of milk for one hour; boil 1 quart milk, then stir in the gelatine; have ready the yolks of three eggs. 1 cup of white sugar, 5 large teaspoonsful of chocolate; pour the boiling milk on this, stirring all the time; put all into a sauce-pan and let come to a boil; then take off the stove, add the whites of eggs and two teaspoonsful of flavouring well whipped; pour into a mould.

NOTES ON CURRENT LITERATURE.

THE DECEMBER CENTURY, as one would naturally expect, is an admirable number. The frontispiece is a striking portrait of the late Helen Jackson ("H. H."), with which is given an appreciative account of her life and writings, by a New England writer, followed by seven new poems, her last work in verse. Mark Twain contributes a chapter of autobiography, entitled "The Private History of a Campaign that Failed," which is humorously illustrated by Kemble. It describes the writer's short service as a Confederate volunteer, and is the perfect type of a satirical war paper. The sketch has historical value as showing the fluctuations of opinion at that time, and the un-military character of some of the earlier campaigns. "The Loss of the *Monitor*" is briefly and most graphically described by a survivor, Francis B. Butts. The Shah and his palaces are described incidentally in an attractive illustrated paper on "The City of Teheran," by the Hon. S. G. W. Benjamin, late United States Minister to Persia. "The Bostonians" and "John Bodewin's Testimony" are continued, the latter containing an episode of tragic interest, wherein a characteristic phase of Western life is depicted. The number contains two short stories "A Child of the Age," and "Mrs. Berty's Tea." An art interest is lent to the number by Henry Eckford's essay on "The Lamia" of Keats, and the illustrations by Will H. Low, with wood cuts of some of Mr Low's drawings; and by a suggestive essay on "The Lesson of Greek Art," rom Dr. Charles Waldstein, the young New Yorker who lectures on Greek Art in the English Cambridge University. Popular and instructive essays are contributed by the Rev. A. F. Schauffler, on "Faith Cures"; by John Burroughs, on "Bird Enemies"; and by Professor Waller, on "Dangers in Food and Drink." Short essays in the "Open Letters" department are very good. A "Universal Tinker," suggests a new mechanical profession. In "Topics of the Time" are editorials on the pursuit and uses of wealth, and on "The Sunday School and good Literature." The number contains some excellent poetry.

HARPER'S MAGAZINE for December is as usual at this season especially a Christmas Number. It is probably the most brilliant Number ever issued, and contains nineteen full-page engravings. The opening article on "The Nativity in Art" is a thoughtful and suggestive study by the Rev. Henry J. Van Dyke, Jun., D.D., illustrated by engravings from masterpieces by Raphael, and other eminent artists. The French artist, Leon Bonvin, a poor innkeeper, whose story is as romantic as his aquarelles were unique and exquisite, is the subject of a paper by Philippe Buty, illustrated by engravings of Bonvin's finest pictures. A notable feature of this issue is the number of strong short stories. These are: "Way down in Lonesome Cave," by Charles Egbert Craddock, with a full-page illustration by Dielman: "The Madonna

of the Tubs," by Elizabeth Stuart Phelps, with three illustrations by W. T. Smedley; "Esther FEVEREL," a Hawthornesque tale, by Brander Matthews, with two illustrations by Howard Pyle; and "Wyvern Moat," a ghost story, by George H. Boughton, illustrated by the author. Besides these are instalments of the serial novels—"East Angels," and "Indian Summer." W. D. Howells, also contributes his annual farce this year, entitled "The Garroters," illustrated by Reinhart. Edwin Arnold contributes a translation from Kaladasa's celebrated poem, "Ritu Sanhara, or "Round of the Seasons," illustrated by Fredericks. Other poems of the number are "At the Grave of Keats" by C. P. Cranch; "The Well of St. John," by R. D. Blackmore, illustrated by Philip H. Calderon; and Mr. Curtis, in the "*Easy Chair*," treats of "Christmas Past and Present," and Mr. Warner, in the "*Editor's Drawer*," takes up the subject on a distinctively American line, and in a most humorous vein.

HARPER'S WEEKLY and **HARPER'S BAZAR**, as Christmas approaches, become more than usually entertaining. They are two of the most indispensable periodicals we receive, and in practical usefulness are certainly not excelled by any thing of the kind published in the world. The last *Bazar* (for Dec, 12) is a very handsome number and contains a charming supplement. A full-page illustration of a "Quaker Wedding" is exceedingly good, and as natural as pleasing. Another from Poe's "Raven," by Dore, though but to illustrate the book, is very pretty.

"Tell this soul with sorrow laden, if, within the
distant Aidenn,
It shall clasp a sainted maiden whom the
angels call Lenore."

THE CHRISTMAS ST. NICHOLAS, it would be enough to simply say, exceeds all other numbers, and is all that the double promise conveyed in its title implies. It fairly bristles with holiday features, from the opening poem, "The Little Christmas-tree," by Susan Coolidge, to the amusing pictures of A. E. Sterner and O. Herford, on the last page. "Santa Claus on a Lark," is the immensely suggestive title of a story by Washington Gladden, which is illustrated by Sol Eyttinge; and Frank R. Stockton contributes a whimsically humorous tale called "Christmas Before Last." The frontispiece is from a portrait by Sir. Joshua Reynolds, and there are literary and artistic contributions from Coryell, Holder, John Vance Cheney, and a number of others,

HARPER'S YOUNG PEOPLE, as we have before stated, is rather for still younger readers, and is an admirable weekly. Impatient "Young people" do not have to wait a month, but have in it a weekly visitor. The last number is an exceedingly nice one, with a supplement, and the title page alone is a little history in itself.

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To the Messrs. HAINES.

NEW YORK, April 1st, 1880.

Gentlemen,—Having had an opportunity of using your "*New Concert Upright Pianoforte*," at the Concerts given by *Her Majesty's Opera Company*, at the Madison Square Theatre, we beg to compliment you upon your great success. Your *New Upright* surpassed our expectations. You can justly claim a superiority over any Pianoforte we have hitherto seen for Concert purposes, which is equally as well adapted for accompanying the voice. Wishing you a continuance of the great success already achieved as manufacturers of the *first rank*,

We remain, very truly yours,

ITALO CAMPANINI, MARIE MARIMON, ANNA DEBELOCCA,
ANTONIO F. GALASSI, SIGNOR BISACCIA, EMILE AMBRE.

Dear Messrs. Haines:

BOSTON, November 2nd, 1882.

The Pianoforte of your make used at my concert, last night, is the most admirable instrument I have ever seen. I was especially pleased with its marvellous sustaining and carrying quality, as well as with the delicacy and evenness of its action, which I was afforded a complete opportunity of testing in accompanying myself during the concert.

Very sincerely yours,

CHRISTINE NILSSON.

VICTORIA HOTEL, 27th St. and 5th Avenue,

Dear Messrs. Haines:

New York, May 4th, 1882.

I beg to acknowledge receipt of the invoice of the magnificent Upright of your make that I selected, and herewith enclose shipping directions. Neither in Europe nor America have I seen an upright that equalled yours in pure singing quality and great volume of tone or elasticity and evenness of action. It will have constant use in the salon of my villa at Bologna, and will be a daily reminder of the delightful associations I have found in America. Hoping to have the pleasure of a visit from you at Bologna, and with thanks for your many kindnesses, believe me, with much respect, sincerely your friend.

ETELKA GERSTER GARDINI.

To Messrs. Haines:

We have used your "*New Concert Upright*" on our recent tours, and the peculiarly successful manner in which it stood the severest tests, *such as have heretofore been applied to the Grand Piano only*, commands our unqualified endorsement. Appreciating your great success as manufacturers of the *First Rank*,

We remain, very truly,

PIETRO FERRANTI, MAURICE STRAKOSCH, EMMA C. THURSBY,
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DEPARTMENT OF INLAND REVENUE.

Adulteration of Food Act, 1884.

NOTICE is hereby given to the Public that the Districts for the purposes of this Act, which is now in operation, are coterminous with the Inspection Districts of Inland Revenue ;

That the following Analysts are appointed, namely :—H. Sugden Evans, F.C.S., F.R., M.S., Chief Analyst for the Dominion, Department of Inland Revenue, Ottawa; William Saunders, District of Windsor ; W. H. Ellis, District of Toronto ; F. X. Valade, District of Kingston ; J. B. Edwards, District of Montreal ; M. Fiset, District of Quebec ; W. F. Best, District of New Brunswick ; M. Bowman, District of Nova Scotia and Prince Edward Island ; J. E. Wright, District of Manitoba.

That the following tariff of fees has been established :

For analysis of Milk	\$5 00
“ “ “ when 6 samples are submitted at one time	20 00
“ “ Bread, Sweets, and other articles unenumerated	5 00
“ “ Butter, Malt Liquors, Cider, Wines, Alcoholic Liquors, Tinctures, Liqueurs, Condiments, Spices, Drugs, Oils	8 00
“ “ Tea, Coffee, Tobacco, Cocoa or Chocolate, and Drugs for their Alkaloids, as Opium, Barks, etc., Pharmaceutical Liquors, Fluid Extracts, etc., Dispensed Medicines and Waters	10 00

That any Officer of Inland Revenue or other person authorized by the Act, on obtaining a sample from a vendor, and on the completion of his purchase of such sample, shall declare to the vendor the object for which he has made the purchase, and shall forthwith, in presence of the vendor, proceed to divide the sample into three equal parts, making the same up into three parcels of such description as the nature of the article may require, carefully wrapping each separately, attaching to it a label of such form as may be approved from time to time by the Minister of Inland Revenue, and sealing each parcel therewith in such a manner that the parcel cannot be opened without destroying the same. One parcel shall be delivered to the vendor, the second shall be forwarded to the Public Analyst for the District within which the sample was taken, and the third shall be transmitted to the Minister of Inland Revenue.

That if a vendor of an article (either wholesale or retail) refuses to give to an officer any sample of such article which the officer desires to procure under the provisions of the 7th section of the Act, after the officer has paid, or tendered, the value of such sample, the officer shall explain the object of his visit and the requirements of sections 7 and 8 of the Act, and shall thereupon demand to be shown the stock of

such article and to be furnished with or permitted to take samples of the same. If the vendor still refuses, the officer is to repeat the demand in the presence of a reliable witness.

That when samples have been purchased at places distant from the residence of the Public Analyst of the District, the Officer or Inspector shall transmit the respective portions of the sample to the Public Analyst and to the Minister of Inland Revenue respectively, by mail or express prepaid, and the cost of such transmission shall be deemed to be a portion of the cost of purchase.

That when the Analyst's certificate declares an article to be adulterated within the meaning of the Act, the Officer or Inspector shall be advised of such fact, and shall forthwith notify the vendor of intention to prosecute, if such course be determined upon by the Minister of Inland Revenue.

That the Analyst shall impartially perform the duties of his office and shall not communicate the result of his analysis to anyone, unless specially authorized or testifying before a court of law in conformity with his duties under the Act.

That the Analyst, on receipt of sample, shall proceed with all reasonable speed to make the analysis and forthwith forward his certificate of analysis to the Minister of Inland Revenue.

That to any municipality appointing Inspectors under the Act, a remission of one-half the fees shall be made by the Public Analyst, and the half so remitted shall be paid under the authority of the Minister of Inland Revenue. But that such Inspectors shall comply with all the requirements of the law and such instructions from the Minister of Inland Revenue, who shall in each case determine the maximum amount of fees that shall be remitted to a municipality in each fiscal year.

E. MIALL,
Commissioner of Inland Revenue.



ADULTERATION OF FOOD AND DRUGS ACT, 1884.

This Act is now in operation, and its provisions are being enforced.

Manufacturers and vendors of adulterated articles of food or drugs are liable to heavy penalties on conviction, and are cautioned that several convictions have been obtained and penalties enforced.

The public are reminded that under the provisions of this Act Municipal Councils can appoint Inspectors and obtain the services of the Public Analyst of their district at one-half the scheduled fee, the other half being borne by the Department of Inland Revenue.

Individuals can also avail themselves of the operation of this Act and the services of the Analyst by conforming to the requirements of the Act.

EDW. MIALL,
Commissioner of Inland Revenue.

OTTAWA, 27th June, 1885.

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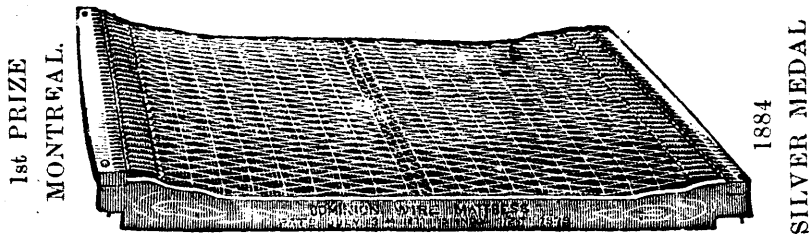
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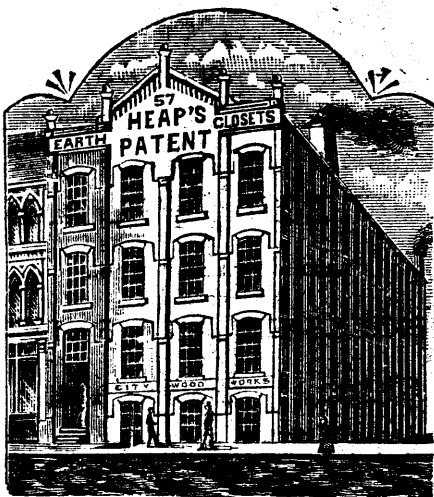
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Extract from a Lecture by Dr. Baker Edwards, Public Analyst of Montreal

"I strongly recommend the gradual abolition of all cess-pits and privy vaults within the city, and the substitution of dry closets and frequent removal, known as the "pail" or "tub" system." I believe it to be practically both the best and cheapest yet devised, whether "Dry Earth," ashes or charcoal be used as the absorbent, and that the only practical objection to them which has hitherto existed is removed in the Heap's patent closet, in which the fluid is separated from the solid excreta. These are claimed by the inventor to be the "best in the world."

Extract from a Lecture on "Sewers and Sewage" Delivered by Alan McDougall, Esq. C.E., before the Sanitary Association of Toronto.

"The dry earth system was the oldest sanitary system which we could trace. The disposition of the sewage of towns and cities could be treated in order two heads: 1. The dry sewage system; 2. The water carriage system. Most of our country towns were worked under the first system—in Toronto to an alarming prejudicial degree. The numerous privies and out-houses were a most fruitful source of disease. After a time the soakage would extend to an area sufficiently large to reach the wells in ordinary town lots. These out-houses, privies, cess-pits, are in proximity to dwelling-houses, bedrooms, living-rooms and the wells of drinking water. This was the most disgusting arrangement possible. The material which being removed was a perfect nuisance. The Dry Earth System of Closets was, on the other hand, the best system of dry sewage, and if properly carried out would not endanger the public health. He referred to and described under this head the ash closets and pail system of Manchester and Rochdale, England, and then produced a working model of

"HEAP'S PATENT" DRY EARTH CLOSETS

as erected on the Exhibition Grounds last September by Mr. Wm. Heap, of Owen Sound. He had inspected these closets when in use and found them to answer admirably, and he understood that a number were now in use in Toronto.

* Four of our closets were erected, and 1,128 visitors made use of them.