

THE MILLENNIUM.

The happy time is coming. When we'll all ride in the air; Change our motors for new airplanes...

The Verdict of the Book

By Emma E. Manning

It was a queer place, that second-hand bookstore. The battered volumes of all possible shapes and sizes were queer, and so were many of those who came to examine them...

When Dorothy Clarke entered the place as an attendant she had thought the room spooky and the books disagreeable ghosts, but the feeling wore away, especially as not all the books were ancient and not all the callers eccentric.

She led the way and swept her hand along the proper shelf. "Whew!" she exclaimed. "Ancient wisdom by the yard."

His laugh rang out cheerfully, after which he was immersed in investigation for twenty minutes. In the end he purchased an inexpensive treatise and departed.

An acquaintance was established between them in a degree, and then she had a surprise one Sunday at church. Without warning a friend introduced her to "Dr. Clifton."

After that they met often. He made her church his, and always courteous, sought her presence persistently. Her mother noticed the fact, made inquiries, and saw no reason to object.

"There have been noted, for instance, 30 pulsations per minute in the elephant, 40 in the horse, 50 in the ass and mule, 70 in man, 90 in the dog, and 150 to 200 in the rabbit."

"His results were as follows: In three mice weighing 29 to 35 grams, the heart beats were 520 to 675 a minute. In two comparatively young mice (about eight weeks) weighing 17 and 21 grams, the contractions were 720, 780; and, finally, in an albino (white) mouse weighing 15 grams, there were 680 contractions. The averages 670 beats per minute."

regular doctor, and it is hardly probable—but I thank you!"

A week passed, and then Dr. Clifton appeared when Mr. Templemore was present, walked to where he stood by Dorothy's side and held out a book.

Dorothy looked and grew startled. "The London Dispensary" was back. Very likely her face expressed unspoken things, for Clifton suddenly broke into a hearty laugh.

"Ha, ha, ha! Pardon me, Miss Clarke, but it's too good to carry further. Let me own up, right now, that I'm a nephew of Mr. Templemore, and that I've indulged in an innocent plot, after arguing long to make him agree."

She flushed and then turned white. Here was the old, objectionable element in the man, the implied possession of her; while the trick exasperated her. She drew back a pace, her eyes flashing.

"You make some mistakes, sir!" she restored, "and one of them is your assumption that I have not told Mr. Templemore. I told him all. It is my duty to help protect his interests, not to work against them."

Clifton grew downcast before what he heard and suspected, but Mr. Templemore was clearly delighted. "There you have it, young man!" he exclaimed. "You asked me yesterday if she had told, and possibly my choice of words seemed like no, but if you will recall them you will see that I evaded direct reply. As for this book, Miss Clarke, that foolish fellow asked my leave to his carrying out his scheme of bogus theft. I objected, at first, but he said he wanted to test you, and it occurred to me that it was a good chance for me to test you, also. I am greatly pleased. If you had remained silent when one of my volumes was stolen it would have been otherwise, but you have been faithful to the interests of your employer, and that is a splendid thing in this world. Thank you kindly, Miss Clarke. Now, I'll let you young people settle your own matters."

It was Dorothy who did the "settling." She had been placed in an uncomfortable position by the doctor's stratagem, and she gave him no chance to repeat. Now, when he reads his medical books he sometimes thinks of her, but he goes no more to the store.—Boston Post.

A MOUSE'S PULSE.

The difficulties of a Scientist in Counting it.

How many know whether a mouse's pulse beats fast or slow? How many know that it beats ten times as fast as a man's; in other words, that it makes ten pulsations while a man's is making one? Owing to the difficulty of registering such rapid beats the exact rate has only recently been ascertained, but it was known in general that the smaller the creature, the more rapid its heart throbs, and, consequently the higher its pulse. Says a writer in Cosmos (Paris):

"There have been noted, for instance, 30 pulsations per minute in the elephant, 40 in the horse, 50 in the ass and mule, 70 in man, 90 in the dog, and 150 to 200 in the rabbit."

"The difficulty of counting the pulsations of the heart when their number exceeds 150 to 200, and the almost insurmountable difficulty of recording such beats with apparatus in current use, in very small animals, have prevented physiologists from making experiments on these latter. This lack of data, however, has just been filled by Mr. F. Buchanan. . . . This author had been led by theoretical considerations to suppose that in the mouse the number of pulse beats could not be less than 500 per minute. To verify the exactitude of his deductions, he took the electrogram of this animal; that is, the electric variation produced in it by the cardiac contractions. He did this easily by dipping the fore and hind legs of the mouse, which was suspended by an abdominal-dorsal bandage, respectively in solutions playing the parts of unpolarizable electrodes, and connected with an electrometer. The latter, we suppose, was the capillary electrometer of Lippmann or some other inventor, in which the difference of potential is measured by deformations of a meniscus of mercury terminating in a very fine glass point dipping into sulfuric acid. The oscillations of the meniscus were photographed on a band of paper moving regularly with a known velocity."

"His results were as follows: In three mice weighing 29 to 35 grams, the heart beats were 520 to 675 a minute. In two comparatively young mice (about eight weeks) weighing 17 and 21 grams, the contractions were 720, 780; and, finally, in an albino (white) mouse weighing 15 grams, there were 680 contractions. The averages 670 beats per minute."

"The respiration of the mouse is equally rapid; Buchanan has noted 140 to 160 per minute. The ratio of the number of the heart beats to the number of respirations is thus about four, as in man and most mammals. Thus the mouse's heart beats four times as fast as the rabbit's and ten times as fast as a man's."—Translation in the Literary Digest.

Losing His Nerve.

Bus Driver—Ain't ye satisfied with runnin' over people? Yer wants to run over the 'esses now? Taxi Driver (Indignantly)—I haven't run over anybody for a long time. Bus Driver—What! Are ye gettin' nervous?—London Opinion.

ALL ABOUT THE HELLO GIRLS

LABOR COMMISSIONER NEILL OBSERVES THEM

He Says There is No Use for Short Girls; That the Companies Want Girls Who Can Reach—Some Require Girls With a Calm, Clear Eye and Good Appetite

If you have any trouble in getting your telephone calls through blame Labor Commissioner Neill of the Department of Commerce and Labor, and probably you won't be far out of the way. Every hello girl in the country will be busy trying to find out just what the Commissioner has said about her. Only a few of them are aware that he had dissected and analyzed them in a report 200 or 300 pages long for the instruction of the United States Senate, but these few have served notice that they will insist on seeing in cold type just what he has found out about them. The commissioner has left little for the hello girl to find out about herself.

"Look here, Cora," exclaimed one of the Washington telephone girls who had got hold of an abstract of the report. "He says we gotta have a calm, clear eye and a steady gaze. I know I gotta clear eye, dear, but am I calm? Go on, am I, really? (Hello, Hello. Been waiting five minutes? Well, I can't help that; wire's busy). And a good appetite and a healthy, rosy complexion. What you think of that, Cora? Say, honest, I always wondered how I got the job so easy. But look at this passage about the companies' handin' us men escorts to take us home nights. That must be a government joke; honest, it must be, doncha think so?"

Complaints from hello girls that they had to walk up too many flights of stairs to their work was chiefly responsible for starting the Commissioner on his investigation. He finds that the telephone girls as a whole have no ground for complaint on this score. He nails them right down on this proposition, giving the exact number that have to climb stairs and the actual effort that is expended. Says the Commissioner:

"Of the seventy-three exchanges reported upon by the agents of the bureau it was found that thirty-three, which were located above the first floor, were not provided with elevators. Of these exchanges fifteen were located on the second floor, requiring the climbing of one flight of stairs; ten on the third floor, requiring the climbing of three flights of stairs. The maximum number of operators affected by such lack of elevators, therefore, being required to climb one flight of stairs was 60; those required to climb two flights of stairs 108, while 75 found it necessary to climb three flights or stairs."

The Commissioner finds that there is no use of short girls trying to become telephone operators.

"None of the companies employ short girls; they want girls that can reach," he said. "The girl who is under five feet hasn't any show."

The Commissioner finds that very few of the companies take girls without first subjecting them to a physical examination. In some cities the girls object to this, but these will be surprised to learn that they were examined without knowing it.

"In one city where the girls interviewed said that no physical examination or test had been made," says the Commissioner, "it was ascertained that the applicants are interviewed by a woman whose exact height is known, and in talking to the applicants can be comparing the level of the eyes with her own tell within a fraction of an inch the height of the girl with whom she is talking. Experts in earlier lines interviewed the applicants and ascertained their exact physical condition."

Some of the companies, besides requiring of their candidates a calm, clear eye, a good appetite and a rosy complexion, demand that they shall have a steady hand and a firm set jaw; also that they shall not be easily excitable. Of 6152 applicants the Commissioner found that 2229 were unable to qualify, 544 being too small, 53 too old, 438 too young, 11 refusing to work on Jewish holidays; 6 declining to be vaccinated, and 169 being lacking in personal appearance.

The Commissioner figures that the average working life at the switchboard is only three years. He finds that in no other industry in the United States are so great precautions taken to insure the health of the employees. He has discovered that in the good old summer time the hello girls, that is the few of them that are sick, suffer from digestive complaints, probably too much ice cream and candy.

The girls of many exchanges get their luncheons right in the company's office. "Hygienic luncheons," the companies call them, and they say that these luncheons prevent the afternoon "dullness and headaches" that raise a hob with the service when the "peak of the load" is reached. By the way, any Senator who reads Mr. Neill's report will be qualified to talk telephone with the oldest hello girl in existence. "Peak of the load," "side reach," "up-reach," "jacks" and "split trick" are only a few of the expressions that go to make up the telephone girl's business vocabulary.

The Commissioner finds also that many of the companies, especially the New York company, "is engaged in a system of welfare work among its employees." They have libraries and parlors where the girls may lounge during the rest hours; also boat ride excursions, theatre parties and art muse-

um parties under the supervision of a competent teacher.

This uplift feature of the report, particularly the theatre party suggestion, has made a hit with the telephone girls in this city, and the companies that haven't got onto this wrinkle yet are sure to be informed of it.

Some of the hello girls also may want to know of their employers why they aren't furnished with roof gardens for lounging places. The Commissioner finds that some companies have such gardens and he recommends that more of them be established. The Commissioner hands out this compliment to the girls: "The loyalty and esprit de corps among telephone girls is greater than in any other industry in the country."

Mr. Neill takes the part of the telephone girls against a peevish public. He says that the average switchboard girl has a hundred telephone call signals to watch. As each call comes in a light flashes on a signal cap. Many signal lights glow simultaneously and there is a clicking sound in the operator's ear every time the receiver is moved up and down. With all this confusion in front of her the hello girl has to contend too with a supervisor who stands behind her and calls out the numbers to other operators when she falls behind in her work. She is in fear also of the monitor cutting in at any minute and reprimanding her.

Under the rules of the companies she is allowed to say only "Number, please," no matter how much she is abused. When the peevish party begins to scold and asks why in thunderation he hasn't got his number, he is delaying her with the other calls that are coming in, and is not only lessening his own chance of getting quick service, but is delaying other people and making it hard for the switchboard girl.

The Commissioner adds that if the people who put off their morning telephoning until 11.30 and their afternoon telephoning until 5 would only remember that these are the heaviest hours of the day, the "peaks of the load," they would get better service and make life easier for the girls.

Some of the hello girls may be surprised to know "that spasms of rush" that last for only a few minutes are regarded as fun by them.

"They really enjoy the excitement and exhilaration," says the Commissioner.

The Commissioner regards 225 calls an hour as the breaking point of efficiency for a girl, although she handles sometimes as many as 600 calls an hour.

The Commissioner has found that 92.7 percent of the hello girls are unmarried or "conjugal condition unknown," 4 percent are married and 2.7 percent are widows.—New York Sun.

QUAINT AND CURIOUS.

Stephen Phillips, the poet, was once an actor.

Grote, the historian, was, by profession, a banker.

William Makepeace Thackeray was born in Calcutta, India.

Swift, Byron, Lamb and Cowper all lived in dread of becoming insane.

A baby born amid the floods at Alfortville, Paris, has been named Moses.

The author, Frank Danby, in private life is Mrs. Julia Frankau, well known as an art critic.

Bulwer-Lytton began work every day at sunrise, and it was nearly noon before he would see any one.

There are more visitors to the birthplace of Burns than to that of Shakespeare, the register books show.

It is expected that aluminum coins of low value will be in circulation in France by the end of this year.

The American system of office towel service has caught on in several English cities, including London.

George Washington is not thought of as an author, yet his writings fill more than twelve octavo volumes.

An electric driven screwdriver, an electric portable hammer and an electric window washer have been invented.

The Rev. Samuel Skrens, vicar of Laneham, Northamptonshire, has seven sons and they are all priests of the church.

Stanley Weyman, the novelist, is 55 years old. His first novel was "The House of the Wolf," published twenty years ago.

In his novel "Lourdes," Emile Zola makes the statement that the deaf and dumb recovered their hearing and sight.

Attached to a tombstone in a Harleston (England) undertaker's shop is a card which reads: "You may telephone from here."

PEARLS OF THOUGHT.

Perhaps the most noticeable thing the matter with our civilization is that it isn't civilized.

Bad habits are not necessarily ones that give us pain; sometimes they only pain other people.

One of the delights of cold weather is the purely negative joy of having no song and dance from mosquitoes.

When the aeroplane industry gets fairly on its wings some enterprising man will be starting a summer resort in Mars.

We can't be too careful of our politicians. If something grave should happen to them we might all die of sheer joy.

Some men make calculations and plans so smooth and slick that they slip up on them and get the smash of their lives.

It is all right to have great plans for tomorrow, but the essential thing is to have fine plans for today that are in brisk operation.

Plenty of persons would like to be good if it did not entail some self sacrifice and wise if it did not counsel giving up of foolishness.

Waiting for something to turn up isn't very exhilarating, and the waiters would doubtless be wildly surprised should the expected happen.

The selfish individual doesn't consider himself well equipped in any line until he feels assured that he can get the best of other people every time.

No matter to what town you go you are certain to find there the superiority of one thing or another and sometimes of both.—From "Pert Paragraphs" in the Trenton True American.

NO SMALL CHANGE IN ALASKA.

Its Use, They Say, Means Smaller Wages—Why Robbers Are Caught. "No pennies, nickels and dimes go in Alaska," said John Hoover of Fairbanks. "When I first went to that country I saw bartenders look curiously at a dime that some tenderfoot had tossed on the bar and then sweep it off on the floor with their hands. I wondered at this contempt for real money and asked some questions about it, discovering that no one ever took nickels or dimes and that nothing could be bought in the Klondike for less than 25 cents."

"Take the ordinary sack of tobacco for instance, which we get here for a nickel. There they cannot sell it for a quarter hardly, so they make it two for a quarter but will not sell one for 15 cents."

"It is common cause among those people up there. They do not want nickels and dimes introduced, for introduction of small change would mean lower wages and lower prices. Ordinary shovellers get \$4 or \$5 a day now and other labor is paid in proportion. They do not want to receive lower wages."

"Of course it is true that they make money on the side, almost every worker does. There is a tendency in mining to follow the rule that nuggets belong to the man who uncovers them even if they are found on the claim of the employer. I have seen men pick up nuggets worth from an insignificant sum to \$108 in value. The game up there is worth playing. I have had this bag half filled with gold dust several times—and lost it; but I expect to keep right on till I make a strike."

Mr. Hoover has with him one of the leather bags that the dust is carried in in Alaska. It is about twelve inches in length and flat and is about four inches across. It ties with a thong. "This looks as if an elephant had stepped on it," he said, "but it has had the dust in it up in the Klondike all right."

"There are mighty few robbers in Alaska. It doesn't take more than four years to try a criminal and give him proper punishment up there; and besides, he can be caught. There is only one way out and that is guarded. Besides, gold dust is as easily identified as different kinds of cloth or cattle. An assayer or a banker in Seattle, for instance, will tell you whether your gold is from one creek or another. There is sometimes 10 per cent. difference in the value of the gold from streams running parallel on different sides of the same mountain. A holdup man who acquires gold dust would have to account for it when he went out, and it could be traced easily."—From the Des Moines Register and Leader.

Rio's Dock System.

Rio Janeiro proposes to construct the greatest dock system in South America, if not in the whole western hemisphere. The plans call for about ten miles of docks, in addition to the two miles already provided for. The idea is that the additional docks shall consist at first of three great piers built at a distance of 1,115 feet from each other. Completed, these docks will have a frontage of 63,320 feet, or about twelve miles. The additions planned will cost about \$19,000,000.

Gratitude for Refusal.

One of the most singular wills ever recorded was that of a British sailor, who requested his executors to give his wife a shilling to buy hazelnuts, as she had always preferred cracking them to mending his stockings. More subtle, however, was the sarcasm of a will proved in 1830, in which a wife received \$2,500, but was only to enjoy it after her death in order that "she might be buried suitably as my widow." A French merchant bequeathed a large fortune to a woman of his acquaintance to show his gratitude for her refusal to marry him twenty years before.



Prof. Herdman, lecturing at the British Royal Institution, and describing how to tell the age of a fish, said the lines on the scales of the herring are lines of annual growth. The number of lines on the bones are another indication.

While a leaf of gold is so thin that it is impossible to measure its thickness, scales have been made which weigh it accurately. One leaf weighs one-fifth of a grain. It is so light that a breath will blow it away. Held to the light, it is translucent and greenish.

Swelling ground cannot be held by timber; means must be provided for relieving the pressure of the ground from time to time. It will cause little trouble if spaces are left between the lagging, through which the pressure may be eased at intervals by removing some of the material. Expedients such as packing with straw are valuable only until the swelling becomes sufficient to pack tightly the cushioning substance. When this becomes packed solidly it transmits the pressure to the timbers.—Scientific American.

The first Edison medal of the American Institute of Electrical Engineers was awarded to Prof. Elihu Thomson for his achievements in electricity, on the occasion of the anniversary dinner of the Institute. This medal was founded by friends of Mr. Edison, and is intended to commemorate his work.—Scientific American.

The blue rays emitted by the mercury vapor lamps have bactericidal properties which are being experimented with for the purpose of making use of them in the sterilization of drinking water. It has been demonstrated that a lamp of nine amperes and 135 volts, suspended in an ordinary cask was very effective in purifying the water. All bacteria (including the coli bacillus and Eberth's bacillus) within 12 inches of the lamp were killed in two minutes. A long series of experiments proved conclusively that one minute suffices for complete sterilization in ordinary cases, and two minutes when the water is very greatly contaminated, either naturally or artificially. The water, however, must be clear, in order that the rays may pass through it. The elevation of temperature is only a fraction of a degree and the water, after treatment, is harmless to plants and animals. Hence it appears practicable to sterilize the water supply of a city (after clarification, if necessary) by distributing powerful quartz mercury vapor lamps in the reservoirs or the mains in such a manner that every particle of water shall remain two minutes within a few inches of the lamp.

COMMISSIONS GALORE.

Wallace is Glad to Oblige His Neighbors.

"Hey!" shouted Mr. Wallace's neighbor as Mr. Wallace hastened past his house on the way to catch the suburban train. "I'm not going in town today, Wallace; will you bring me half a dozen big screw hooks big enough to swing a hammock with?" "Sure, Mike," said Mr. Wallace, pleasantly. "Anything else?" "Not a thing," said his neighbor; "unless you'll stop by Miller's and see if he's got my trousers cleaned. If he has, bring 'em with you."

Mr. Wallace wended his way toward the station. As he passed Mrs. Pitkin's home that worthy lady caught sight of him and ran toward him gladly. "Oh, Mr. Wallace! Mr. Wallace!" she cried. "Won't you bring me out a nice watermelon? I've tried to get one here, but there are none to be had. Get a nice big one for about 20 cents."

Mr. Wallace continued his walk toward the station, revolving things in his mind. He did not like to carry watermelons. On the way he was stopped half a dozen times by as many people. One wanted a half dozen cigars; another wanted some washers for his garden hose. Still another desired greatly and above all things a half gallon can of green paint.

Then Mrs. Wallace quit. When he came home that night it was with set jaws that he marched to his home. To all who reproached him for his neglect he replied firmly:

"I'm sorry, you know; but fourteen people gave me commissions to execute and I forgot yours."

But he did not explain that he had forgotten all the fourteen—deliberately and designedly forgotten them. That was a matter he considered strictly his own business.—Galveston News.

Point of View.

Senator Beveridge, apropos of the old-fashioned snowy winter, said the other day:

"Snow, of course, has its disadvantages from some points of view. 'Snow is beautiful in its season,' Solomon said that. But I know an old Indianapolis man who, on hearing this remark of Solomon, grumbled:

"'Oh, yes, no doubt it was beautiful to you sittin' with all the wives and asses of Jerusalem beside you; but if you'd been a poor stonemason you'd never have said any such thing.'"—Detroit Free Press.