# IN ELDER WORLDS.

BY HENRY W. LUCY, OF "THE LONDON DAILY NEWS."

II.

SOME JAPANESE TRAITS.

TOKIO, Japan, 1884.

We left Nikko at 8 o'clock in the morning, our cavalcade as usual the centre of a dumbly staring throng comprising one-third of the population of the village. As we dashed down the uneven street with a stream of fresh water running in the middle, another third of the population, chiefly women, were kneeling on either side, washing pots, pans, kettles, dishes, and everything but the children. These last were running about, hideous in their dirt, yet withal plump and well made. In these reforms which the wise and far-seeing statesmen who now rule Japan are pressing forward, it should not be difficult to introduce one on behalf of children who swarm in the streets of country hamlets. When Mr. Ito (not our guide, but the Minister of State) recently made his journey to Nikko his quick eye noticed the condition of the roads, and his practical hand promptly plucked at the root of the evil. He must have seen something worse in the pitiable state of the children, which varies only in degree of dirt and consequent disease whatever road be taken through the interior. The Japanese Government, with all its newly grafted Western ideas, is essentially paternal. It should not be difficult to make and enforce a few simple sanitary rules on behalf of the children. Their mothers and fathers could not take it unkindly since they are scrupulously clean about their own persons, and would rather go without their evening meal than their evening bath.

At the end of the long street, which is Nikko, is a shady avenue of cryptomeria, with the sunlight gleaming at the far end. In hot summer weather this must be a grateful place for the dusty traveller, like "the shadow of a great rock in a weary land." Just now the morning is like one in late spring in England, and almost as leafy, though the trees have taken on autumn tints. In addition the chrysanthemum is blooming in every garden, and often neglected by the wayside. The rice harvest is in full swing, and close by the brown wet earth whence the crop has been cut there are long furrows in which bright green shoots of some other crop boldly stand up. So fruitful is the soil of Japan when skilfully treated, and so kind the weather, that in many places two crops are garnered in every year. I read a good deal about Japan before starting to visit the country, and it is with ever-increasing astonishment I recall the fact that from no book did I get the impression that Japan is a beautiful country to look upon. Yet it is surprisingly beautiful in all the varieties of hill and dale, fruitful plain, and water everywhere.

We stopped at Osawa for tiffin, Ito providing for us in the accustomed civilized, bountiful style, whilst the men who had run twenty miles since morning contentedly ate their eggs and rice, deftly fishing the latter out of bowls with their chopsticks. Across the beam of the tea-house were pasted sheafs of little bits of paper, being introductions from the last inn of travellers who have stayed there. These letters of introduction form a connecting link between series of tea-houses through out the country. One landlord passes his guests on to a friend at the next stage, as he has guests recommended to him from the preceding halting-place. The abundance of these scraps of paper testifies to the popularity of the tea-house. At Osawa we were introduced to a fowl of great and peculiar beauty, though not unknown to poultry shows in England. He was of perfect shape, of bantam size, and all his manifold feathers turned the wrong way. As he strutted about, conscious of the important part he was playing in maintaining the prestige of Japan, the tip of his tail feathers tickled his comb with a persistency maddening to a bird inspired with less lofty purpose. Ito was much interested in this phenomenon, and wondered how it was brought about. At Nikko there is a temple where a portion of the elaborate carved work on a pillar is turned the wrong side up, with intent to defeat the malign purpose of evil spirits. It is believed that if the temple were finally completed, the demons, envious of its perfection, would destroy it. Therefore a few inches of the carving is turned the wrong way to show that the building "is not finished." Remembering this, I suggested that the bird's feathers were turned the wrong way to show that it was not finished. "I don't think it's that," Ito said, though there was no tone of strong conviction in the assertion. Poultry is the one live stock in which Japan may glory. The horses are miserable; the cattle—what there is of them—are stunted and ill-fed; the dogs are the veriest curs, not worth the trouble of tying round their necks the little wooden labels on which are written the names and addresses of their owners. But the poultry is abundant. They take kindly to their food, and though not particularly good when brought to table, yield large returns in the way of eggs.

More rice fields were on both sides of the road all the way to Omaya, men, women, and children busy in the fields, and the old men and women at home spreading out the rice on the drying mats. We passed a little mite, certainly not more than four years old, trotting along the road bravely carrying a big teapot in front, balanced by a baby strapped on her back. Placed in the scales, baby and teapot would have made the little woman in the other scale kick the beam. But having them once fixed on, and being set going, she trotted along, dressed in clothes exactly like her mother's, cut short to her size. We reached Omaya just before dusk, completing forty-six miles in the day, and having done one spurt of fourteen miles in an hour and three-quarters. Ito does not think much of this. We have each two coolies, whilst he has done fifty-five miles in a day with a single man. Moreover, there are three men in Tokio who can do seventy miles in a day, and one, a prince among his fellows, who does this distance within twelve hours.

Whilst dinner was being made ready I wandered about the roomy kitchen of the tea-house, and held a good deal of conversation with its inmates, scarcely any the less interesting because no one understood the other. The Japanese are such a good-tempered, merry race that it is a pleasure to talk with them, even when nothing comes of it. The ground floor of the tea house, open to the street—silent save for the voice of the blind shamisen calling for custom—formed a striking picture. Outside, after the manner of the old English inn, there swung a sign-board covered with cabalistic signs, whose meaning was plain enough to the way-worn native traveller. There was no front door, porch or entrance hall. The front of the house had simply been taken down or pushed back, disclosing a long, low interior, its recesses and unexpected nooks dimly lighted with oil lamps and here and there a Chinese lantern. From the thick and blackened beams of the ceiling hung pendant sheaves of letters of recommendation mementos of vanished travellers. The room on the left, by day a passage and by night a bed-room, had, all to itself, an oblong lantern eight feet long, furnished with farthing candle power, but diffusing a wonderful, soft light. It was well it was not too brilliant, for a little further on, in a recess, leading out of the main passage, was the bath-room with four men naked and not ashamed. On the right, a few steps along the raised matted floor, which no boot or shoe has ever pressed, was a broad flight of eight steps, leading to the only upper story. Little waiting maidens, always chattering and laughing, were running up and down serving the dinner of the native guests. The kitchen ran the full length of the house, behind the staircase. It was full of twinkling lights, amid which moved dusky figures bent on domestic duty. On the right, standing behind a charcoal stove with many openings for pots and pans, stood the Japanese cook in the flush of evening work. A little lower down, kneeling over a modest hibaichi, was Ito cooking our dinner. The glow of the fire reflected on his face, bringing out the supernatural gravity with which he tested the savoriness of the mullagatawny. In a dark shadow, in a part of the kitchen nearest the street, squatted an old gentleman, with head closely shaven save for a love-lock over his left ear. He was making tea by a fire sunk in the floor—only making believe to brew tea, I suspect, his principal interest being to retain a snug place by the fire. As he spread his skinny hands over the glowing charcoal and felt the fire, the expression of his face resolved itself into a fixed mild smile, that began on his thin lips, illuminated his bare, brown face, and shone with subdued lustre, over his shiny, shaven head. Our bed-room, which served also the purpose of dining room, was neat and clean. Over one wall was a large scroll with writing on it. I thought this was what is known in Japanese house-furnishing as "a poem." But Ito explained that it was an injunction to temperance "If you drink," Ito literally translated it, "you will miss your hairs," a poetical fancy which seems to require some thinking over, as a preliminary to comprehension.

We started from Omaya to catch the steamer at Koga in the jinrickshas, our men trotting merrily along as if they had been resting through the earlier days of the week. It was again a bright English May morning, so clear that among the clouds in the horizon to the left we could distinguish the white cap of Fuji. We had a desperate rush to catch the steamer, and would have failed but for a strategic movement on the part of Ito. Taking on a fresh coolie he went in advance and reached the pier just as the little steamer had got out into the mid-lle of the stream, and was heading for Tokio. In obedience to Ito's signals the steamer obligingly put back and awaited our arrival. It also waited till Ito had concluded a purchase of crockery, for we were to lunch on board and plates are not included in the odd property of a river steamer. It was a curious little craft, with paddle-wheels, and a hurricane deck on which passengers stepped from shore, and in reaching the cabin made a perilous descent on to the bulwarks. Captain, officers, engineer and crew, about seven all told, were in a condition of wild excitement on discovering the nationality of their passengers. As far as they were concerned, Ito might have lingered to buy up all the plates in Koga so long as they were permitted to revel among our belongings. Our coats, our dress, our pipes, and our boots were in turn the object of their curious regard. But the great object of interest was a pair of air-cushions, which, by the way, persons about to make a journey in jinricksha should never be without. These puzzled them beyond measure, till the captain, observing the brass nozzle, ventured to blow into it. To see it gradually inflate filled them with unalloyed delight. The first mate, who had apparently been having his watch below, and, called up by sudden alarm, had forgotten to put on his trousers, seized upon the second cushion and blew into it till I was obliged to take it from him. Another blast and it would have burst. All this time the crowd on the beach had been gathering, including a large contingent of tow-headed children. There was some fear that we should never get away; but Ito having come aboard, and a deputation of two jinricksha men having come down to bow their acknowledgments of a little present made in recognition of their manful work, the engineer, who had not been able to get hold of one of the air-cushions, spitefully blew his whistle, ropes were cast off, and we moved out again into the eddying yellow stream of the Tonegawa.

We passed onward through a level and sparsely populated country. The banks were flanked with willow trees, and now and then, from under their overhanging shadow, we disturbed a flock of wild ducks. We steamed past several junks floating with the current, and by many men fishing out of punts. Our young gentleman from Glasgow was at this stage of the journey the most interesting feature in the landscape. Seated on the deck, his boots, at any time an appreciable object on a square acre of ground, came into full and prominent view. They were shooting boots, made to his order, with exaggerated soles spreading beyond the uppers and the tops lacing well above his ankles. The barefooted Japanese crew regarded these monstrosities first with awe, then with an overmastering curiosity that brought them, at whatever risk, to group themselves on the deck around the boots. I suppose some one was steering the steamer, and I could see the anxious engineer with his body thrust upward through the circular hole that gave ingress to the engine-room. But I declare there was no look-out, every other man of the crew from the captain downward being seated round the young gentleman from Glasgow examining his pipe, feeling the texture of his Scotch tweed and running their fingers over his ribbed stockings, or glancing sideways at his boots. He, on his part, freely entered into conversation with them, having great faith in the English language when slightly improved by use in Glasgow. Moreover he had a small glossary of Japanese words. With this in his hand he managed to conduct a conversation of much length, though of doubtful meaning. When in a fix, and having slowly repeated syllable by syllable what he had to say in the English tongue, he finally put his mouth to the ear of his interlocutor and howled the words over again, as if deafness naturally accounted for the difficulty of comprehension. At length the united efforts of the captain and crew succeeded in making clear that they wanted him to take his boots off. One naturally supposed that the steamer being so small they wanted to trim her. But as they left the boots together on the same side of the vessel they were probably afraid of the ravages of the nails upon their deck. When the excitement had subsided and the crew returned to their posts, I saw the captain heave alongside, take up one of the boots, gaze reflectively upon its broad, spike-studded sole, put it gently down, and go away. After a few more turns he would stop, take up the boot again, turn it over in his hand, and replace it. In the afternoon, coming on deck after luncheon we caught the first mate still without his trousers, in the act of trying on the boots.

Right away in the stern of the little steamer, only approachable with infinite peril of tumbling overboard was a minute cabin registered for the conveyance of sixteen passengers. If the sixteen had been herrings they might have been packed in, but it was difficult to see how any other kind of passenger could be so dealt with. Nevertheless, if we wanted deliverance from casual passengers, we three must pay sixteen fares, which in the end we did, the total amounting to a little less than £3. Forward of our cabin, separated from it only by sliding panels with glass windows, was another cabin. There was no one in it when we went on board, but presently it began to fill and long before we reached Tokio we had ceased to regret the little extravagance in the matter of a private cabin. An hour out, we began to pick up passengers and they came and went on crowded wharfs through miles and miles of country gradually increasing in signs of life and labor. The steamer did not always stop to be moored at the wharf. Out from some little ferry would shoot a punt with a solitary passenger on board. The steamer slowed but did not take the trouble to cast out a rope. When the punt got along side the passenger, taking off his clogs threw them on board, then jumping on himself. The steamer puffed ahead, and the punt soon faded in the distance. All the native passengers before touching the spotless deck of the steamer took off their clogs. One of the crew, or possibly it was the purser, handed each a wooden check, a corresponding one was tied on the clog and as the passengers departed the clogs were claimed.

At a place called Saki the river divides, and the little steamer went through a difficult and dangerous passage to reach the branch that leads to Tokio. What had frequently been threatened occurred, and she ran aground. After a desperate struggle she was pushed off and safely reached the pier at Saki, where a great crowd of passengers awaited her arrival. Saki is a busy place, with a considerable number of junks and sampans, a double row being fastened to the wall. The river junk is a Japanese home, and we saw varied domestic arrangements going forward in those lying quietly moored. Looking at one junk slowly making its way into the broad stream, we saw two naked bronzed figures under the overhanging stern. It seems to be the maritime habit of Saki that when a junk puts out two of the crew jump overboard and push her from the stern through the shallow water, which not infrequently merges in a mud bank. Passengers came on board, squatted on the floor of the cabin next to ours, sitting as near the hibachi as possible, though the sun was streaming hotly down out of a cloudless sky. Most of them were smoking, men and women. They seemed to pass the time pleasantly enough, bowing recognitions or farewells, chatting, smoking and laughing. At 5 o'clock we turned into the canal and made our way through a densely populated quarter of this suburb of Tokio. The canal, which lay almost due west, was made the pathway of the setting sun and was ablaze with splendor in the bow-roweed rays. The town itself was not without interest seen from this new approach. But the captain, through Ito, earnestly beseeched us not to remain on deck. It seems that the little boys of Tokio have discovered that it is very hard to catch them after they have thrown stones at the steamer as it makes its way through the canal. According, with the pleasant humor peculiar to little street boys in all parts of the world, they throw them at the steamer, not without result, as some broken windows in the cabin testify. But we did not remain below long. It was worth risking something to pass through this busy hive of life, with the Chinese lanterns beginning to glint and the growing dusk, and all the glory of the setting sun crowning the head of Fuji.

H. W. LUCY.

# POISON IN NEW-YORK WELLS.

DANGER IN USING THE WATERS.

WHAT AN INVESTIGATION OF THE BOARD OF HEALTH SHOWED—THE ACTION NOW PROPOSED.

Solomon's advice, "Drink water out of thine own cistern," if literally interpreted, may have been worthy of all heed by the pastoral people whom he was addressing, provided their wells were not sunk too near the spot where the camels and cattle roamed; but in a large city like Jerusalem or New-York this admonition should be taken, as the impregnated well waters must be, with several grains of salt. Ordinary open wells, according to Professor C. F. Chandler, are supplied partly by surface drainage. The water usually contains the alkaline and alkaline-earthy salts of spring water; the total quantity of mineral matter and the relative proportions of the various salts depending upon the nature of the soil. In the neighborhood of dwellings the proportion of chloride of sodium or common salt is generally increased by the drainage of house refuse, which also leads to the contamination of the water with the products of the decomposition of animal matters, such as salts of ammonia, nitrites and nitrates. In many cases, from the proximity of cesspools and vaults, the water becomes contaminated with filtered sewage matters, which, while they hardly affect the taste or smell of the water, have nevertheless the power to create the most deadly disturbances in the persons who use the waters. In the neighborhood of graveyards the water of wells is often impregnated with animal matters from the recently filled graves. As long ago as 1808 it was decreed in France that no one should dig a well within one hundred metres of any cemetery.

FORMER WORK OF THE HEALTH DEPARTMENT.

In this city there are many wells, and there is no doubt that their waters have for many years been employed in the manufacture of beverages, and otherwise brought into dangerous use. In 1882 Dr. Chandler, then president of the Board of Health, ordered an examination of the water of various wells in this city and the lower part of Westchester County, with a view to determining their organic and mineral properties in relation to their probable effect on the public health. Professor E. Waller, of the School of Mines of Columbia College, spent several months in analyzing specimens of the water. In THE TRIBUNE of October 14, in that year, a full account of the investigation, setting forth its object and results as far as attained, at that time, was published. The owners of the wells were greatly opposed to this action of the Board of Health, maintaining that the water was not used for drinking purposes; that, if impure, it was possible to obtain superior water by going deeper; and that a large amount of money and numerous industries depended upon this water supply. It was declared that the action of the Board of Health, which had in view the closing up of these wells, if they were pronounced dangerous to the public health, was investigated by the Board of Public Works, whose object was to compel the use of the Croton by those using the well-water, thereby adding largely to the revenue collected through that department.

Many brewers, down-town soda water manufacturers, hotel and restaurant proprietors and others, who said they were compelled to use the well waters because the Croton was too expensive and uncertain in supply, took strong ground against the right of the authorities to interfere with them.

At that time there were said to be 1,800 driven wells, 50 artesian wells and about 50 dug wells in the city. There had been 1,000 driven wells opened during the preceding three years. In order to avoid molestation on the part of the authorities, many of these wells had been secretly located in places where their existence could be concealed. So carefully were they kept from the public view that the Board of Health found great difficulty in discovering them and it was stated that its officers succeeded in finding only one in every thirty of them. Their aggregate yield was figured up to 20,000,000 gallons per day, or about 7,000,000,000 gallons per year, and it was estimated that the total amount per year lost by the Board of Public Works and gained by the well-owners was $100,000 at fifteen cents per 100 cubic feet, the rate charged for Croton water. From five to twenty-five wells belonged to a single firm, in some instances, by which a saving of from $3,000 to $15,000 on each well was effected. In the item of ice also there was a large saving, well water in summer being 25° colder than Croton.

VIEWS OF SCIENTIFIC MEN.

A statement was recently made by Professor Waller to a TRIBUNE reporter in regard to the results of his investigation. He said: "I have analyzed water from about fifty of these wells and in most cases I find it unfit for use. It is generally contaminated with organic substances and extraneous matter such as appear in drainage, and has an excess of mineral ingredients. Some of these waters resemble tide water, and contain more solids than the ocean itself. The surface drainage gets in by percolating through the earth and running down the iron pipes. Much of this well water is highly charged with lime and magnesia salts, making it very hard and indigestible. It also causes incrustations in boilers, inducing explosions. Hotels run it through Croton pipes at great loss because it contains so much carbonic acid that it takes up lead, causing more or less poisoning. I found eleven tenements and flat houses where it was pumped up into lead tanks, the water undergoing such a change that it was unfit for use, whether for drinking, cooking or bathing. Croton is not liable to this objection, except where it comes in contact with fresh lead surfaces. I have always recommended Croton as superior to well water. There are times when it is unpleasant, but it has never been injurious, though Professor A. R. Leeds, of the Stevens Institute, takes ground against me on this point. I found three-fourths of the wells in Westchester district very bad, the water containing a large amount of drainage. Wells on the Harlem Flats contained of solid and extraneous matter 68 grains to the gallon; in West Fifty-sixth-st., 56½ grains; in Grand-st., near the East River, 50 grains; in the Westchester district, 7 grains (mostly drainage); in Broadway, near Wall-st., 20¼ grains; in East Forty-eighth-st., 22 grains; near Columbia College, 35¼ grains. A well at the New-York Hospital ran so heavily in iron and other minerals that it had to be abandoned. It destroyed all the pipes and vessels it came in contact with, and could not be made available for use even as waste water, except at great expense."

"It is not safe," said Carl H. Shultz, "to use well water, except where it is proved by chemical analysis not to be injurious. These waters should not be used for the purpose of manufacturing beverages, because they are too strongly impregnated with mineral matter. Croton is entirely pure in this regard, and the organic matter found in it can be absolutely removed. It is a practical impossibility to manufacture a safe and correct mineral water out of Manhattan well waters, because they already contain an excess of mineral substances which cannot be taken out except by an expensive process of distillation. They are used on account of their good appearance, only for cheap mineral waters, which contain more solid indestructible matter than some mineral springs. Dug wells are invariably contaminated, but they are rapidly disappearing or being abandoned."

Nothing came of Professor Chandler's investigations in 1882, but now that the Board of Health has again taken hold of the matter it is hoped that something practical may be done. The order of the Board of Health, recently issued, that the use of well water in the preparation of soda water be discontinued, is difficult to enforce. Dr. Cyrus Edson, Chief Inspector of the Second Division of the Sanitary Bureau, who has been active in processing the order, said that the manufacturers express a desire to help all they can in abolishing the danger. Such expressions they are bound to make, but where money can be saved and earned by avoiding a heavy tax on Croton water consumed in large quantities by these establishments, it should not be left to the sense of honor in their proprietors to comply with the law, but a strict watch should be kept upon them by the Health authorities to see that they do so. The public health has been too long trifled with in this matter and stringent measures should have been taken long ago.

Dr. E. H. Janes, Assistant Sanitary Superintendent, in speaking of this matter said: "It has been known for years that the well water in this city was not fit for drinking purposes. It is difficult to prevent people from drinking water from their own wells if they want to do so, but the proprietors of hotels should not be allowed to give it to their guests, and manufacturers of beverages should not be permitted to make use of it. Now that the work has begun with the soda water manufacturers it will probably go on until the use of dangerous well water is completely stopped. That the use of poisonous well water increases the dangers of an epidemic was demonstrated when the Asiatic cholera was here in 1849 and in 1854. The vicinity of a well in the midst of the tract that is now the Central Park, was a nest of cholera. Among the poor people living in shanties on the rocks at that time and using the water of the well beneath, which was doubtless impregnated with refuse matter from above, the disease raged with unwonted virulence."

DANGERS FROM ARTICLES USED IN DRINKING.

The dangers that attend the consumption of liquids in civilized communities (among savages in their native wilds they are altogether avoided) are illustrated by the recent discoveries made by the Sanitary Bureau of the Board of Health, regarding the poisons that often lurk in faucets and other metal conduits. The following letter from Dr. Cyrus Edson, chief inspector of the Second Division of the Sanitary Bureau, to Dr. E. H. Janes, acting superintendent, which will be presented at the next meeting of the Board of Health, accompanied by several specimens of articles in daily use, the interiors of which were so coated with verdigris as obviously to threaten the lives of those using liquids that passed through them:

"I have the honor to transmit herewith several exhibits of brass cocks used in draining beer, soda and flowing syrups for the latter beverage. I respectfully call attention to the condition of their interior surfaces. Exhibit No. 1, is a specimen of the common brass beer tap used extensively throughout the city. It holds about one glass of the beverage. It is my opinion that beer allowed to stand for a short time in this tap would contain a deleterious amount of copper. Exhibit No. 2 is a syrup faucet from a soda fountain. It is commonly known as the Doll pattern. The amount of copper which air and syrup would dissolve off would, without doubt, cause sickness. Exhibit No. 3 is a combination soda faucet. This apparatus enables the person using it to draw off by a simple manipulation a variety of syrups. The syrup is immediately followed by a jet of carbonated water, which would have the effect of washing into the glass of soda water the copper salt resulting from the action of the acid syrup on the brass of which the faucet is made. I respectfully recommend that a section be added to the sanitary code forbidding the use of any metal in the manufacture of any receptacle, conduit or faucet for holding or drawing off any beverage which would be acted upon by said beverage so as to form with it a deleterious or poisonous compound."

General Shaler said yesterday that the action recommended by Dr. Edson would undoubtedly be taken at the next session of the Board of Health.

# HOW PIANOS ARE MADE.

THE VARIOUS PROCESSES AND MATERIALS

A BIG MARGIN OF PROFIT LEFT FOR THE MANUFACTURER.

A visit to a piano factory gives an opportunity for seeing much that is of interest. There is a fascination in watching the processes by which from rough piles of lumber and coils of wire the instrument which can become one either of torture or pleasure is fashioned.

A piano may in the making be divided into four parts: the case; the framing and sounding board; the stringing; the keys and action. The case is the most expensive part of the instrument, though upon it depends none of the value of the piano as a musical instrument. Until within a few years, cases were almost invariably made of rosewood, but now every variety of wood from mahogany to holly is used. It must not be supposed, however, that a case of rosewood or any other sort of fancy wood is made of that material entirely. The real case is of white wood, and the appearance of the most expensive wood is given by a thin veneering, applied with extreme care. The framing has for the last sixty years been formed in part or whole of iron. This is necessary on account of the immense strain produced by the strings, the sum of whose tension amounts to from seven to ten tons. The sounding board is of thin spruce. The strings are of iron wire covered with either copper or steel wire or else plain. The action and keys are formed of ivory, white wood and felt.

A TRIBUNE reporter was led yesterday through a large factory from the top story down, and found each floor devoted to one special branch of the manufacture. His guide volubly explained as they passed through the why and wherefore of everything.

"This is the polishing-room," said he, "and an important room it is, too. The polishing of a piano is a long, laborious business. The varnish is laid on first in four or five successive coats which are each of them rubbed down when dry with pumice stone and water. Then other finishing coats are applied, which are sandpapered until the final polishing coat is applied. Altogether there are nine or ten coats of varnish or polish applied."

The next floor was reached.

"These men are building up the cases," said the guide. "They are held together by wooden clamps, and when finished are taken apart, numbered and sent upstairs to be polished. That man is veneering. A thin, paper-like sheet of rosewood is glued to that inch thick piece of white wood, and both are then subjected to enormous pressure at a high temperature. The glue pours out at the sides, and the veneer is almost part of the humbler wood it masks. It will never blister or crack. That oddly shaped piece of iron is the frame. We do not cast those ourselves, as it would not pay. Steinway is the only manufacturer who does. In that little room are the regulators who after the piano is made, tone it by carefully tightening or loosening the strings. The regulator is the highest paid workman in the factory. It takes him a little over a day to tone a piano if he is working by time. If he is piece-working he gets it done within the day. Before coming to him, however, the instrument passes through many hands, for each man has his own line, and never departs from it. There are key makers, hammer-makers, hammer-leatherers, stringers, case-makers and finishers, sound-board-makers, and so on. The keys are made as a rule outside the factory as it would not be worth while to have the necessary machinery for ivory working."

Floor after floor was visited, until finally the packing room was reached, and after that the warerooms, where rows of shining instruments stood, each carefully covered to protect it from the dust. "There, sir," said the guide, "that is where a piano finds its way six months or so after its manufacture is begun."

"What is the average price of a piano?"

"Well, that's a difficult question to answer. You can buy a piano at retail for $100, or rather what for want of a better name is called a piano. You can also think yourself lucky if you get one for $800 as a special favor from the manufacturer. Our instruments sell for $700, but to you I would put it in at $600 cash." The courteous offer was declined, but mentioned with approbation subsequently to a man who has been connected with the piano trade. His scorn was immense.

"Why come to me," said he, "and I will get you the same piano for $350 on easy terms. There is more nonsense talked in that business than in any other I have ever heard of. The cash price of a piano to any one who is in any way connected with the business is invariably 50 per cent lower than the catalogue price. Now I'll just give you a few figures to show that the manufacture is not such a very costly affair after all. Mind you, too, I am speaking of first-class instruments. Wages vary from $12 to $30 a week, or in the case of a good regulator to $35. Lumber is dear, but there is not very much used after all in a piano. White wood costs from $35 to $60 a 1,000 feet, and spruce for backs from $22 50 to $30 a 1,000 feet. The best spruce taken from the sunny side of the tree for sounding boards is $45 a 1,000 feet. A set of keys costs about $17 ready for use. The castings necessary come to about $12. The strings—say about thirty covered strings—are $3 50. Cases, when made by the piece, as is generally the case, are put in at about $420 a dozen for the very best, though they are often contracted for in good shops at about $350 a dozen. Altogether the average price of a first class instrument to the manufacturer is about $250 all told, which leaves a fair margin of profit for agents and retailers when the customer pays his $800 to $1,000 for it. Yet piano manufacturers do not make fortunes rapidly. There is immense competition, cheap instruments are got up which sell for $150, and are worth not so many cents. A large capital has to be invested, about $5,000 for each piano turned out each week, and sales even in good years are slow compared with the stock that must be kept on hand. Altogether the life of a piano manufacturer is not altogether a happy one, but all the same when they tell you of the enormous cost of making pianos sprinkle a few grains of salt over the statement."

# CLIMBING THE BRIDGE TOWER.

A LABORIOUS AND SOMEWHAT PERILOUS ASCENT—THE VIEW OF TOWNS AND CITIES.

A wire ladder hangs over the south roadway within the arch of the New-York tower of the Brooklyn Bridge. It is now the only means by which the top of the tower can be reached. While the bridge was being built a temporary wooden staircase was used, but this was removed when the work was completed, as there is only occasional need for any one to ascend to the summit. Workmen employed on the cables do not always use the ladder, preferring to make their way along the large cables or by the guys. Climbing the ladder does not appear much of a feat from the footway of the Bridge. But no one is permitted to attempt it except by special permit and at his own risk. The ladder swings loosely on the pier wall, with an uncomfortable freedom under human weight. Its length is eighty feet. A six-story house could be placed in one of the archways, and a novice who climbs the ladder has no inclination to look back, but pulls himself over the last round with such a sigh of relief as he would give if he had climbed over the cornice of a high building.

His climb is not yet finished, but there is a chance for rest. The ladder enters a hole in the arch large enough for a man to pass through it. There is a platform here, and more ladders; steep steps with iron rungs, twisting passages and ugly holes leading through the darkness. It is seventy feet from the top of the ladder to the top of the tower. Without a lantern a stranger would be apt to fall headlong into the ugly pits along the path. His cries would be lost in the constant hum that comes up through the cavern, and only his skeleton might ever be found and his bones would be all to tell his story. The summit reached, and a cool breeze which sweeps over it is a reward for the toil. The tower is 274 feet above the water at high tide. It is the highest attainable point about the city. Pennants on the top-masts of the tallest ships flutter far below, and the people on the Bridge appear dwarfs. Ten-story buildings seem to shrink to the height of ordinary structures. Only the weather vanes and the crosses of the church spires reach a level with the summit. The space on the top is broad enough for a double flat of the approved New-York dimensions. When the city advances so far as to have twenty-five-story buildings the Bridge officials may be able to get some revenue out of this space, if they provide elevator facilities. Macaulay's New-Zealander, when he starts for London, will find an ample platform here on which to rest and speculate.

There is no better view of the city and vicinity than the tower affords. Brooklyn stretches away to the east as far as can be seen, with the East River like the letter S dividing it from New-York; the Highland and beyond Staten Island and the Narrows, the Lower Bay limits the southern view. On the west the eye reaches over Jersey City and Newark, thirty miles distant to the hills back of Paterson; on the north it looks over the mass of buildings to the tower at High Bridge, and beyond it where the Hudson River makes a gap in the Palisades.

The heavy cables that sustain the Bridge and its traffic pass through an arched way within a few feet of the top of the tower. There is a scarcely perceptible vibration in them when the travel is at its height. They rest in what are termed cradles—heavy iron troughs—which are set on steel tracks adjusted for the cradles to rock to and fro and maintain the proper balance of the great thoroughfare. Recently Professor J. K. Rees, of Columbia College, with his class in geodesy, made a series of triangular observations from the New-York tower for the United States Coast Survey. The purpose was to determine a permanent site for locating the changes in channels and buoys. This establishes the New-York tower as a station of the Coast Survey. Professor Rees found that his instruments indicated a slight oscillation in the tower, but not enough to interfere with his calculations.

The descent from the summit is less difficult than the climbing up to it, but the sense of satisfaction is complete when the roadway is reached.

# THE WOES OF BEERY MEN.

LARGE LOSSES FROM THEFTS OF CRATES—SOMETHING ABOUT THE TRADE.

The berry trade in this city amounts to nearly $3,000,000 each season, and is carried on by about 200 houses on a small commission. The season begins in the early part of May and continues until the middle of August. Strawberries come first from Maryland, and then follow from Delaware, New-Jersey, and along the Hudson River, while the last of them come from Oswego, about June 1. Raspberries begin to arrive in June, and they last until August 1. Blackberries and whortleberries begin to come July 1, and last until August 15. The raspberries are sent first from Maryland and Delaware, and others follow from New-York, while the whortleberries are received chiefly from Pennsylvania, though there are some raised among the Catskills. The trade from points upon the North River is a heavy one, and the berries are mostly brought to the city by two lines of boats—the Kingston Line and the Poughkeepsie Transfer Company. The berries are in cups packed in crates. When a retailer purchases a crate of berries he is required to deposit $1 for the crate, which he receives back upon its return, the shipper holding the commission merchant responsible in that amount.

For several years there have been organized bodies of thieves, who have made a business of stealing these crates, either from the wharves or while they are on their way to the boats, and taking them to the commission merchants to receive a dollar for each one. This has resulted in a great loss to the merchants, and they have tried many ways of stopping the robbery. One way was to issue tickets without the return of which with the crates the money could not be collected. But many of the dealers have discarded their use, because of the trouble involved. Customers whom they knew to be honest would frequently lose the tickets, and were generally annoyed by the consequent delay in settling. The greater part of the business is done in the morning, when there is a continual rush, and little time to exercise any care.

A TRIBUNE reporter talked with a number of the largest commission merchants about the matter, and found that they all suffered more or less from these robberies. Charles M. Purdy, of No. 77 Barclay-st., said that there were two causes for it. One was the dishonesty of some of the drivers, who would permit the thieves to take the crates off their wagons while on the way to the docks, and another was the way in which the steamboat companies treated them. Said Mr. Purdy:

"The steamboat companies compel us to have our crates on the docks at 2 o'clock, and refuse to receive any after that hour. Then, too, they refuse to give us receipts for them, alleging as an excuse that they do not charge return freights. But they charge enough down freights to cover the return. The two companies combine together and fix the freights to suit themselves, and there can be no opposition, as they have a monopoly of the traffic. The boat of the Kingston Line leaves at 4 p. m., and the other at 6 p. m., and the crates lie around on the dock for from two to four hours. It is an easy matter for a truckman to toss two or three of them upon his cart as he drives off, or for some one to carry them off the pier in his hands. Only a short time ago, there were a lot of crates left on one of the docks over Sunday, without any protection whatever from the thieves.

"Another thing that we have to complain of is the way in which the berries are handled on the boats. The crates are often tipped and come to us with the top berries spilled out of the cups and lying in the bottom of the crates. We would find no fault if the companies would load the crates as soon as received on the pier, or take some means of protecting them, as the railroad companies do with their freight."

Probably the heaviest losers by the thieves are Eldridge & Carpenter, of West Washington Market, who have already lost several hundreds of dollars this season. Mr. Carpenter, however, succeeded in catching one of the thieves last week and securing his conviction. He thinks that the "gang" to which he belonged is broken up. He said also that he is frequently victimized by boys who come into his stall, and picking up crates right before him demand payment for them. He discovered this trick, recognizing one of the crates which he had paid a customer for only a few moments before.

# HOME INTERESTS.

FEATURES OF THE MARKETS.

SEASON OF SOFT SHELL CRABS—VEGETABLES AND FRUIT.

The season for soft shell crabs is at its height just now, and the crabs are cheaper than they have been for several years, the reason being that "soft shells" are dainties that are in demand only from the rich, and, like brook trout, when hard times are felt in Wall Street soft shell crabs are little called for. They are caught in great quantities along the south coast of Long Island and on the low swampy shores of New-Jersey. In flush seasons the industry is one of great profit to the fisherman. Crabs sell at present for $1 25 a dozen. Hard crabs cost $3 50 a hundred. Brook trout is worth 90 cents a pound, while bluefish is plentiful at 8 cents, fresh mackerel 15 cents, kingfish and sheepshead 25 cents and eels 18 cents a pound. Lobsters cost 15 cents, flounders 8 cents, cod 8 and 12 cents, fresh caught salmon 20 and 55 cents, weakfish 10 cents, halibut 15 cents and frogs' legs 40 cents a pound.

The herb market is well supplied with sweet marjoram, sage, thyme and summer savory, which sell at 2 and 3 cents a bunch. Hundreds of wagons roll over the several ferries nightly loaded with fresh vegetables of every description. Nearly all of this kind of marketing is carried on in the early morning hours. By 9 o'clock all the wagons have sold out and recrossed the ferries to the fields. It is difficult after that hour to get any fresh, clean vegetables. From New-Jersey comes plenty of sweet corn, which sells for 25 cents a dozen ears. Fresh tomatoes can be had for 15 cents a quart, green peas 20 cents a half-peck, cabbages 5 and 8 cents a head, red and white onions 8 cents a quart, cauliflowers 15 and 25 cents each, cucumbers, large and fine, 3 cents each, and string beans 5 cents a quart. The prices of other vegetables remain about as quoted in last Sunday's TRIBUNE.

The supply of watermelons is abundant and they are selling at 25 and 35 cents each. Muskmelons are scarce and poor in quality. The heavy rains in the planting season frequently washed up the seed and delayed the crop by making a new planting necessary.

Peaches still sell by the dozen and quart. Until the crop from Delaware and New-Jersey arrives and is sold in the regulation basket it is hardly worth while to quote them. The varieties are mostly rareripes, early Crawfords and a few Troths, and they cost from 25 cents to $2 a dozen. Red Astrachan apples are coming from Delaware and cost 40 cents a dozen. Rough apples are $1 and cooking apples $1 50 a peck. The supply of berries, currants, etc., is undiminished. The market is flooded with pineapples and bananas from the West Indies.

# PULPIT SKETCHES.

THE REV. C. R. BAKER, RECTOR OF THE CHURCH OF THE MESSIAH, BROOKLYN.

This parish was organized in 1848, in the "Hill" neighborhood, a long stretch in a northeasterly direction from the Heights, when the Hill was literally rather a land of promise than a promising field for new church enterprise. The mission was planted and nurtured under the fostering hands of those stalwart and much loved leaders in the old Evangelical school, Drs. Stone and Cutler, who are likely to thrive in the tenacious memory of the Church long after the "School of Theology" which they so fervently illustrated slips out of sight. The beginnings were administered severally by the Rev. Messrs. H. A. Newman, R. J. Walker, O. Perinchief, George E. Thrall and Richard B. Duane, most of them exceptionally clever and devoted men. Yet the growth was gnarly and somewhat ill-savored, as might be easily surmised from the significant fact that thirty-six years were shared by seven successive rectors; these gentlemen evidently found their rapidly shifting pastorates chiefly profitable from the lively and spirited discipline that they encountered.

It is interesting to look even hurriedly back over those first years. The normal impulse in the development of the mission may be identified in the sharp intolerance, then at white heat, between the High and Low Churchmen. The rector of St. Mary's was among the earliest to discard the academic gown and preach in his surplice. This trifling question of clothes, over which the author of "Sartor Resartus" would have chuckled, grew into a portentous shibboleth for the times, and