

the tones of the human voice, is to be preserved to the race. The reaction must come. When the orchestration is made so magnificent and so suggestive that the voice is an unwelcome interruption, and when the instruments are so noisy that nothing of the voice can be heard beyond a screech or a howl, it is time for the two departments of expression to be separated, the orchestra should be left to itself, and recitatives should be delivered over to the spoken drama. There is no denying the genius of Wagner. His power of converting musical instruments into echoes of human passion has never been equalled, and will probably never be surpassed; Lohengrin, Tannhauser and Der Fliegende Hollander will live forever in poetry and in song; but all the same, Wagner is to be feared and shunned by singers as the great destroyer of the human voice.—*Atlantic Monthly*.

### INDUSTRIAL NOTES.

**THE ELECTRIC AGE.**—Prof. Elisha Gray remarks that electrical science has made a greater advance in the last twenty years than in all the 6000 historic years preceding. More is discovered in one day now than in a thousand years of the middle ages. We find all sorts of work for electricity to do. We make it carry our messages, drive our engines, ring our door bell, and scare the burglar; we take it as a medicine, light our gas with it, see by it, hear from it, talk with it, and now we are beginning to teach it to write.

**BOILERS EXPLODED BY GAS.**—After prolonged official investigation, the most extensive and complete destruction of steam boilers on record has been attributed to the sudden ignition of coal gas, mixed with air, that had accumulated in the flues. The explosion occurred July 25th, 1887, in Upper Silesia, Germany. Twenty-two boilers, each with more than 1000 square feet of heating surface, were instantly blown to pieces, buildings covering half an acre were destroyed, and three men were killed.

**HOUSES OF ALL AGES.**—An interesting feature of the Paris Exhibition will be a group of forty-nine structures intended to give a history of the human dwelling. The different types of shelters represented will include those of the prehistoric period—under rocks, in caves, on water and on land; and from later times those of early historic civilization, of Aryan civilization of Roman civilization in the East and in the West, and of rude civilization disconnected from the general progress of humanity,—the Chinese, Japanese, Eskimo, African, Aztec, etc. The interiors, the costumes of the occupants, and the surroundings, will be those of the different epochs studied.

**WASTE OF ENERGY.**—In the ordinary sixteen power incandescent lamp, according to Prof. E. Merritt, only from four to six per cent of the energy actually expended is available as light, the remainder being wasted as heat. To lessen this loss is one of the greatest electrical problems now awaiting solution.

**DELICATE MEASUREMENT.**—The new radio-micrometer of Mr. C. V. Boys—a thermo-electric circuit suspended by a torsion fibre in a magnetic field—shows a temperature change of one ten millionth of a Centigrade degree.

**FUTURE SCIENCE.**—"What would one not give," asks Lubbock, "for a science primer of the next century? for, to paraphrase a well-known saying, even the boy at the plough will then know more of science than the wisest of philosophers do now."

Messrs. S. G. Kerr & Sons, of Canning, who were burned out last year, have with commendable enterprise erected a new factory three times the size of the old one, and are again putting up quantities of dried vegetables for soup. Canning has also a steam saw mill, a barrel factory and an axe factory, the latter sending its products to a firm in St. John.

**PHOTOGRAPHIC PROGRESS.**—Among recent camera achievements is a portrait copy taken by the light of a Cuban fire-fly in thirty seconds, and a photograph of the aurora borealis. To obtain the latter had been declared an utter impossibility.

**ONE YEAR CLOCKS.**—An important improvement in clocks has been shown the British Association for the advancement of science by Mr. W. H. Douglass. The new feature is the torsion pendulum, which, with lever and escapement, may be applied to ordinary works, and by its slow rate of vibration makes practicable the conversion of an eight-day clock into one requiring winding only once a year.

A company has been formed in Brazil for spinning and weaving the cotton produced in that country. Its capital is £30,000, divided into 15,000 shares of £20 each, but only 10 per cent. of this is to be called up at present. Two thirds of the total capital is already subscribed. The headquarters of the company is at Maccio, and the factory is to be established at Cachoeiro, near a railway, and in the midst of a cotton-producing district.

It is very satisfactory to note a commencement in the manufacture of pickles in Nova Scotia. We have received a sample of excellent quality and flavor, put up by Messrs. J. L. Gertridg & Co., Gaspereau, N. S., who have made 25 hds. this season. This is a movement in the right direction. We have more than once expressed our surprise at the supineness of our farmers and others, who allow the Halifax market to be occupied by imported pickles, when they could supply the article themselves with perfect ease. Let every one patronize home productions.

**A MECHANICAL NOVELTY.**—The remarkable Mannesmann process of making seamless tubes is described by Mr. F. Siemens as consisting in passing the red-hot bar of solid metal or glass between revolving conoidal rolls. These rolls are so arranged that the varying velocities of revolution with which the different parts of the bar are brought into contact cause the formation of a hollow through the bar's centre. Tubes a foot in diameter, with a shell only a quarter of an inch thick, may be produced in this way, and great strength is claimed for them. Tubes with sealed ends may be made, the hollow centre being a vacuum.

The imports of Jamaica in 1885 were £1,456,000 in value, principally food stuffs, clothing, household necessities, furniture, railway supplies, coal, all of which Canada could furnish, but of which she only supplied £177,172, or twelve per cent. On the other hand the purchases made from the United States amounted to £464,282, or almost thirty-two per cent. The exports, which consisted of sugar, coffee, fruits, spices, dyewoods, rum, &c., came to Canada in 1885, direct, only to the extent of five or six per cent., viz., some £65,000 out of a total exceeding £1,408,000, while 15 per cent. went to other countries, and 42 per cent. to the States.

### CITY CHIMES.

According to rumor we are going to have a very jolly winter. The private afternoon parties at the rink are to be continued, and that pleasant meeting place will soon be open. At least as soon as Jack Frost will honor us with a visit. The air is full of theatricals, and soon our celebrated amateurs will be seen walking about with suspicious looking little yellow books peeping from their coats. Altogether the season promises fairly. If the many charitable ladies and gentlemen in our city who are always ready to devote themselves to managing and arranging entertainments, the proceeds of which they devote to some worthy purpose, will take a humble suggestion, I would point out that we have a great want in the city to be remedied, that is the market. A covered market would be a boon to the country folks who have to sit in the open, under scorching sun and freezing rain, in bitter cold and in scorching heat. This great need is often remarked not only by our own citizens but by strangers. The profits of some of these public events might well be devoted to such an object.

Spiritualism is the latest fashionable fad, and the other evening certain officers of the garrison devised a small spiritualistic seance at one of our best hotels. All arrangements were made, and a party of ladies and gentlemen invited to witness the appearance of certain shades of the departed. A number of works on the subject were at the lecturer's table open. The medium had, it is needless to state, no knowledge whatever of the subject, and depended mainly on his imagination, red fire and like decorations, ably assisted by a few most substantial ghosts. These in an adjoining room were, when off duty, most hospitably provided with light refreshment of a spiritual nature, (one phantom, by the way, let the soda water off with a bang.) There had been some difficulty about inventing a sufficiently serious and solemn incantation by which to call forth the dread forms from their resting place. This was overcome by the imaginative medium, who apparently remembered the better part of the Greek alphabet (pronounced in a very novel manner) mixed with a line or two from Homer to give the alphabet ballast. The unfortunate ghosts (luckless because the drinks gave out,) had been listening to the incoherent flow of words and endeavoring to draw their shrouds more gracefully around them. Then the distorted alphabet and mutilated Illiad came to a close. Ghosts sprang to attention and audience waited breathless. A match was struck, flickering faintly and dying out. Suppressed shriek from those watching now enveloped in darkness. Another match, a lurid glare from the red fire, and a hundred and sixty pound phantom rose from the vasty deep. Here a lady fainted, the ghost came gallantly to the rescue, most generously offering her his modicum of whisky and soda, after drinking half of it to be sure it was not too strong for the helpless being on the floor. She remarked of course (being a woman,) on her recovery that she had not been frightened at all.

The Queen Hotel sees a good deal of fun within its hospitable walls, the proprietor always doing his best to make his guests comfortable. It is whispered that a dance will be given there shortly by the wife of a well known gentleman of the city who are residents at the Queen for the winter.

A fancy ball is also not far off. After Christmas many dances no doubt will follow, and the old round of "Vanity Fair" that has lagged somewhat lately, will once more be in full swing.

Curling will be among the amusements this winter, (it has been to a certain extent all summer among the fair sex,) but this is bona fide curling, and I believe there are a number of experts at the game in the city, and soon the stones will be whizzing across the ice.

I believe some sporting gentlemen are endeavoring to form a polo club. The old polo club came to grief, the military members went away, the civilians mostly got married. Ponies, necessary things for polo, were exchanged for various useful household articles. The riding ground has changed since those days, but the old polo club is still green in the hearts of its members, and in the memories of those who watched the game in by-gone days. I have no doubt many of the old players will come forward next summer. There are a good many most presentable ponies knocking about, and there ought to be a good turn out of them the coming season.