

—The rooms of the *Institut Canadien-Français* were solemnly inaugurated on the 16th instant. An inaugural address by the Hon. Mr. Chauveau, President of the Institute, and a lecture by Hector Fabre, Esq., were delivered before a crowded audience. His Lordship, the R. C. Bishop of Montreal, the Rev. Mr. Granet, Superior of the Seminary, D. Masson, Esq., President of the St. Jean Baptiste Society, and the Rev. Fathers Vignon and Aubert also addressed the meeting. The building now occupied by the Institut is that which formerly belonged to the Montreal Natural History Society, Little St. James' street. It was bought for £2300 by a joint stock company, consisting of the leading members of the new institution. The hall in the upper part of the building has been greatly improved, and in order to make more room, a brick wing has been erected for the staircase instead of the one in the centre of the hall. As now constructed, the lecture room can hold upwards of 500 persons. A larger number even were present. A reading room, well supplied with newspapers and periodicals, has been open for some time, and a library and museum are in course of being established.

SCIENTIFIC INTELLIGENCE.

—Mr. Fox Talbot, the inventor of the well known "paper process" of photography, and who, with a liberality seldom found, relinquished his patent (being a wealthy man), and threw his improvements open to the world, has just invented a new process of engraving by light on plates of copper, steel, or zinc. Taking a perfectly clean plate, he covers it with a solution of a quarter of an ounce of gelatine dissolved in eight or ten ounces of water, mixed with one ounce of a saturated solution of bi-chromate of potash in water. The engraving process should be carried on in a darkened room, and is performed as follows:—

A little of this prepared gelatine is poured on the plate to be engraved, which is then held vertical, and the superfluous fluid allowed to drain off at one corner of the plate. The plate is dried over a spirit lamp, and the gelatine left in a thin film evenly spread over it. The object to be engraved is laid on this, and screwed down upon it in a photographic copying frame. This frame is then placed in the sunshine for one or more minutes. When the frame is taken from the light, and the object removed from the plate, a faint image is seen upon it—the yellow color of the gelatine having turned brown wherever the light has acted. Powdered gum copal is now spread thinly over the plate and melted into a thin covering, and the etching liquid applied. This liquid is the perchloride of iron, of which water dissolves an extraordinary quantity. This, if a certain strength (to be found by experience, five or six parts of the saturated solution to one or two of water being an average strength), is applied with a camel's hair brush, and the etching quickly commences, to be continued as long as the operator thinks fit. The liquid is then wiped off with cotton wool, the plate cleaned with water and whiting, and a perfect etching is obtained, the liquid acting only on those parts of the gelatine which have been left untouched by light. This liquid may be conveniently used for common etching, as it is, in every way, superior to aquafortis, and its preparation is simple, being merely a solution of peroxyd of iron in hydrochloric acid, evaporated nearly to dryness, and dissolved in water. It disengages no gas while "biting in," and does no injury to the hands or clothes of the operator. There are, of course, many points of difficulty in the process, which patience and experience on the part of the operator will easily overcome.

STATISTICAL INTELLIGENCE.

—In 1856 the population of England, Scotland, and Wales was 22,080,449, viz:—10,802,279 males and 11,278,170 females. England and Wales contained 19,045,187 of these, and Scotland 3,035,262. There were 759,201 births, 448,962 deaths and 179,824 marriages. There were 614,802 legitimate and 42,651 illegitimate births in England and Wales, and in London 83,787 legitimate and 3,646 illegitimate births. The proportion of illegitimate to legitimate was 1 in 14.0, and 1 in 23.0. The proportion of marriages to the population was 1 in 119 in England and Wales, and 1 in 100 in London, and it is added:—In Great Britain 5,179 schools were inspected in 1856, accommodating 877,762 children; 571,239 was the average number in attendance; 3,455 of these schools belonged to the church, and the rest to the various dissenters (including the Roman Catholics) and the kirk of Scotland; 165 primary schools were built, and 6,282 enlarged or improved in England in 1856. The receipts for the purposes of primary education amounted to £915,372, (£422,633 from Parliamentary grants,) and the expenditure to £939,910. In Ireland there were 5,245 national schools at work at the end of 1856, and the average daily attendance varied from 269,410 to 254,011. There were 168 agricultural national schools at work in 1856. The receipts on account of primary education amounted to £247,664, and the expenditure to £231,458.

The total number of paupers in the United Kingdom in 1857 was 1,057,133, the percentage to the population being 4.6 in England and Wales, 3.9 in Scotland, and 0.9 in Ireland. The total expenditure on the paupers of the United Kingdom was £7,153,742. In England there were, in 1857, 122,845 in-door, and 762,165 out-door, paupers. The adult able-bodied paupers (exclusive of vagrants or "sturdy beggars") numbered 140,075, of whom 19,660 were maintained in-doors. The total amount expended on the relief of the poor in 1857 was £5,898,756, the average rate per individual of the population having been 8s. 5½d. for "poor rates received," and 6s. 1½d. for expenditure in relief of poor.

Ireland presents a remarkable improvement as regards the decline

of pauperism. The total number of paupers in 1857 was only 56,910, against 73,525 in 1856, and 89,610 in 1855. The percentage ratio to the population was only 0.9. The expenditure has fallen off from £849,951 (1855) to £619,514.—*Hunt's Merchants' Magazine*.

—The number of languages spoken is 4,064. The number of men is about equal the number of women. The average of human life is thirty-three years. One-quarter die before the age of seven. One-half before the age of seventeen. To every one thousand persons, one only reaches one hundred years. To every one hundred only six reach seventy-five years; and not more than one in five hundred will reach eighty years. There are on the earth one thousand millions of inhabitants. Of these, 33,333,333 die every year; 91,824 die every day; 7,780 every hour, and 60 per minute, or one every second. These losses are about balanced by an equal number of births. The married are longer-lived than the single; and above all, those who observe a sober and industrious conduct. Tall men live longer than short ones. Women have more chances of life previous to the age of fifty years than men, but fewer after. The number of marriages is in the proportion of seventy-six to one hundred. Marriages are more frequent after the equinoxes, that is, during the months of June and December. Those born in spring are generally more robust than others. Births and deaths are more frequent by night than by day. Number of men capable of bearing arms is one-fourth of the population.—*Ibid*.

—By the latest return of the populations of Great Britain and France, it appears that the proportion of children and young persons to adults is about one-seventh more in Great Britain than in France. The inferences are that marriages are more fruitful than in France; that the population in Great Britain is in a more rapid state of advance—the percentage of persons living under 15 being 35 in Great Britain, and 30 in France. The total number of adult males in the United Kingdom is 5,210,000; in France, 7,250,000.—*Ibid*.

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