

John Field, born in Dublin, July 26, 1782, was a marvellous boy pianist. His father took him to London, where he appeared with great success. He was the inventor of the musical form known as the nocturne. His teacher, Clementi, took him on a concert tour through Europe, where he was covered with honors. Field finally settled in Russia, where he became the fashionable music teacher for many years. He died in Moscow, leaving a son, a splendid opera tenor, but of whom there is little record.

The Irish musicians of later days are so well known that it is unnecessary to devote much space to them. We have only to mention William Michael O'Rourke, who changed his name to Rooke, the instructor of Balfe and a famous composer himself; John Augustus Wade, also a pupil of O'Rourke, and the composer of several operas; Michael Kelly, historian, singer, and composer; Michael William Balfe; William Vincent Wallace; George Alexander, of Limerick; Sir Robert Prescott Stewart; Augusta Holmes, born in Paris of Irish parents, and famous both as a pianist and composer; Charles Villiers Stanford; Hamilton Harty; Patrick Sarsfield Gilmore; the great O'Carolan, and many others, to show what an interesting history of Irish musical celebrities might be compiled to the advantage of their native land and to the credit of the race from which they sprang.

The Louis Pasteur Centenary

France intends to commemorate this year the centenary of the birth of one of the most brilliant of all the many men of genius she has given to the world, in the person of Louis Pasteur, founder of the physico-chemistry, father of bacteriology, inventor of bio-therapeutics, whose epoch-making discoveries have been the means not only of saving tens of thousands from the most cruel of deaths, but also of adding to an extent that is almost incalculable, to the material prosperity of his native land.

Pasteur was born of poor parents at Dole, Jura, December 27, 1822, and received his early education at the College Communal of Arbois, but at first paid little attention to books. When science was reached in the course, he grew interested. He received his degree at Besancon, and then in order to devote himself to science went to Paris to study under Dumas, Ballard, and Biot.

Meteoric Rise.

His rise was meteoric. His earliest work was done in crystals, concerning which he made discoveries that revolutionised previous ideas, and at 27 he was appointed professor of chemistry at Strassburg University, which institution and the town of Strassburg are now erecting a statue in honor of his memory. From crystals the young chemist turned to fermentation, to the causes which set fermentation to work, and to the question whether life can arise spontaneously as some were foolishly prone to believe before he began his researches.

He proved, first, that fermentation and putrefaction were due to living germs of various kinds, and from this the demonstration that life comes only from the living was but a step. He showed that in highly organised material, if the living germs are all destroyed, and that, if further access of germs be prevented, even though air may be allowed free access, fermentation or putrefaction does not take place.

A piece of cotton wool or a mere bending of the neck of the flask to keep the germs from entering is sufficient after sterilisation to keep organic solutions quite sterile. By degrees he proceeded to his greatest discovery of all, that of germs, bacilli and bacteria, which may be called the key of medicine.

Further Researches.

These earlier studies led Pasteur to researches in vinegar, wine, and beer, silkworm disease, and disease in sheep. The silkworm disease had produced such ravages in the great silk industry in France that the end seemed not far off. Pasteur threw himself into the problem and solved it by showing that the spread of the disease in silkworms could be prevented by careful segregation of healthy worms from those diseased.

The announcement, like so many other great discoveries, was scouted at first, but Pasteur demonstrated its absolute truth and his practical ability by taking charge of the villa

of the French Prince Imperial, where the silk industry had been ruined. At the end of the year the sale of cocoons gave a net profit of 26 million francs. "Pasteur's discoveries," said Huxley, "have brought France more than the five milliards she paid to Germany."

Pasteur was one of the most unselfish and disinterested of men; and it is recorded of him that when Napoleon III. asked him why he reaped no benefit from discoveries which were enriching the world, he replied: "In France scientists would think themselves dishonored by acting in such a way."

It was fortunate for the welfare of mankind that Pasteur considered commerce beneath the dignity of a scientist, and decided to push on with his research work. For far above the material value of his discoveries, great though these are, must be placed his discovery of what contagion really is and how it can be prevented.

It was Pasteur who made modern surgery possible, a fact to which Lister, the famous British surgeon, who first put Pasteur's discoveries into practice, has given the most emphatic testimony. One of the greatest joys of Pasteur's life was the receipt of a letter from Lister thanking him "most heartily for having shown me by your brilliant investigations the truth of the germ theory of putrefaction and for having thus acquainted me with the one principle which can lead the antiseptic system to final success." Lister, it is hardly necessary to say, by putting Pasteur's experiments into practice, abolished a whole series of deadly diseases, and made a major operation practically a safe matter, instead of one in which four out of five cases died.

The Crowning Triumph.

The crowning triumph of Pasteur's career was, perhaps, his discovery of the cure for hydrophobia, a disease that had hitherto been invariably fatal. He first traced rabies to a bacillus. Next he found how to attenuate and strengthen the virulence of a serum prepared from it, and protected them against it.

Though he had an intense horror of vivisection, yet he assisted at a simple operation, such as an inoculation under the skin, without much distress, but even then, as a recent biography tells us, if the animal made a little sound, Pasteur was filled with pity and lavished upon the victim words of comfort or encouragement, which would have been ludicrous if they had not been touching. The hour came when the great scientist was entreated to use his skill on man.

In July, 1885, a boy of nine, who had been cruelly bitten by a mad dog, was brought to him. The boy's death was certain if he did not act. With agony and fear at heart he began the inoculations; on ten successive days they were administered in constantly growing strength, and the child lived. The crucial experiment had been made.

Six months later he had inoculated 300 persons, with only a single death—that of a girl who came to him 37 days after being bitten in the head. This case he regarded as hopeless from the first, and only undertook it because of her parents' distress.

In 1887 a British official commission, of which Lister was a member, reported after 14 months' study with him, that "M. Pasteur has discovered a method of preventing rabies comparable to that of vaccination for small pox. It would be difficult to exaggerate the importance of this discovery, both as regards its practical application and its effect on general pathology."

It is also to the genius of Pasteur that medical science is indebted for the discovery of the serum to cure diphtheria, which proved the master-key to the treatment of other diseases by serum, known as antitoxins, appropriate to each.

Many honors came to Pasteur from all parts of the world, and on his 70th birthday—December 27, 1892, there was a magnificent celebration of his jubilee, to which contributions were sent from every civilised country and all the great institutions of learning. It has been truly remarked that the faith of this great man was as genuine as his science.

PASTEUR'S CATHOLICITY.

Much has been written of late in the Catholic press (says *America*) concerning the religion of the great French scientist, Pasteur. That he was a Catholic, in name at least, is admitted by all. But was he a Catholic who faith-

Mrs. J. Aramburu

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