

## Intercolonial

Mr. T. J. Dalton, K.C.S.G., has been elected president of St. Mary's Cathedral (Sydney) branch of the Hibernian Society.

The 'Advocate' reports the death of Canon Robert Potter, M.A., an Anglican clergyman, of Melbourne. Mr. Potter was a patriotic Irishman, and he evinced interest in Ireland on many occasions. He attended the Grattan Centenary banquet and other events.

The Very Rev. Dean McAuliffe, of Forbes, celebrated the 40th anniversary of his ordination as a priest on Sunday, July 5. He has been 27 years in the Forbes parish. At the 11 o'clock Mass on that day the choir rendered special music in honor of the occasion. The Dean feelingly returned thanks for the graceful tribute.

His Lordship Dr. Dunne, Bishop of Wilcannia, has made some recent changes in his diocese. He has cut off Moama, Mathoura, and Wamboona from the Deniliquin parish, and formed them into a separate mission, with the Rev. Father W. B. Tobin, of Wentworth, in charge. Rev. Father D. Hennessey, of Broken Hill, goes to Wentworth, and Rev. Father K. Behan, of Deniliquin, goes to Broken Hill.

The death is announced of Rev. Mother Mary John Evangelista, of St. Brigid's Convent of Mercy, Midland Junction, Western Australia. The deceased religious was the daughter of the late Dr. Stewart, M.A., who was a personal friend of Cardinal Newman, and on the foundation of the Catholic University in Dublin had the honor of a professor's chair under its first distinguished rector. She came out to Western Australia in 1883, and two years later was professed.

The prisoners in New South Wales gaols manufactured goods last year to the value of £30,706. They supply clothing for aborigines and State children, bags for tram conductors, brooms for Government offices, boots for the police, and socks for persons in other Government departments. At Bathurst and Goulburn prisoners till some 80 acres of land, and altogether an excellent beginning has been made in utilising prison labor in varied industries.

The Catholic ladies of Sydney and suburbs have taken up the proposed Catholic reception to the American Fleet with enthusiasm. In each parish a committee has been formed for the purpose of making the necessary arrangements to augment the fund of the reception committee. At the suggestion of his Eminence the Cardinal, one lady from each parish has been appointed to an Executive Committee to work in conjunction with the gentlemen's committee.

By the death of Sir Thomas Naghten Fitzgerald, of Melbourne, Australia has lost an eminent surgeon and the Irish race in the Commonwealth a distinguished kinsman. The late Sir Thomas Fitzgerald was the son of John Fitzgerald, M.A., of Trinity College, Dublin, and having been born at Tullamore, Ireland, on August 1, 1838, had almost completed his 70th year. He was educated at St. Mary's College, Kingstown, and subsequently at the Ledwich School of Medicine, Dublin, and received hospital training in Mercer's Hospital, where he was pupil of, and dresser to, the famous surgeon, Mr. Butcher. In 1857 he passed the final examination for the diploma of Licentiate Royal College of Surgeons of Ireland, and came out to Victoria the following year. The eminent surgeon's services to the cause of medicine and modern surgery were recognised by the late Queen Victoria in 1897, when she conferred on him the honor of knighthood. For the last forty years (says the 'Age') Sir Thomas Fitzgerald has been recognised as the leader of the medical profession in Victoria, and has been regarded by the profession generally as being not only the foremost surgeon in Australia, but one whose fame as a surgeon was of world-wide repute, and whose name was inscribed amongst the names of the highest in his profession. The most eminent surgeons of all the leading cities of Australia had been his pupils. Sir Thomas Fitzgerald was a man who would have been eminent in any walk of life, for he had all the qualities that combine for human success—untiring energy, patience, concentration, and love of work.

Many a man is the victim of circumstances simply because he is too lazy to avoid being victimised.

## Science Siftings

### BY 'VOLT'

#### How a Tree Grows.

Both earth and air are required for the growth of a plant or tree. The roots absorb moisture from the soil, which, in the form of a watery fluid called common sap, rises through the fibres of the last deposited annular ring, traversing all the branches and leaf stalks until it reaches the leaves; there it undergoes a change by the absorption of carbonic acid from the air. It then travels downward again in the form of proper sap, just underneath the bark, which is expanded by the accession of moisture, and in the cavity so formed a new layer of material is deposited which gradually hardens and forms a new annular ring. And so, from absorbing the moisture and minerals of the soil and the carbonic acid of the air the tree goes on until it finishes its cycle and dies.

#### Largest Telescope in the World to be Made.

At the present writing the famous forty-inch Yerkes telescope at Williams Bay, Wis., is the most powerful of its kind in existence, but the eagerness of men to know more about the solar system has prompted the building of a still greater instrument of the reflecting type. John D. Hooker, of Los Angeles, California, has provided the funds for the construction of a reflecting telescope, of which the mirror will be 100 in diameter and the focal length fifty feet. This instrument is intended for the use of the Solar Observatory of the Carnegie Institution on Mount Wilson. The enormous stride in the erection of such a telescope will be best comprehended if its dimensions are compared with the largest instruments of the kind completed. Hitherto sixty inches has been the limit of diameter of a silver-glass mirror. In the Ritchie sixty-inch mirror, the mass of glass of which the mirror is composed is eight inches thick and weighs one ton. In the new telescope the mirror will have glass thirteen inches thick and the mass will weigh four tons and a half. About four years will be required for the making of this telescope, and another year for the mounting of it. How much nearer it will bring the stars, and how much more detail in the planets it will give mankind, remain to be demonstrated.

#### Magic Mirrors.

Now and then mirrors of a curious kind are seen in Europe. They are called 'magic mirrors,' and are of Japanese origin, made, not of glass silvered, but of cast bronze, polished on the face, and bearing on the back raised patterns, inscriptions, symbolical designs, crests, or pictures. When exposed to a bright beam of light from the sun or from an electric lamp, they reflect in the light from their polished face the image of the pattern on their backs. This is a purely optical property, and has, of course, nothing in common with the fortune-telling magic crystals of the astrologer or the alleged magic mirrors of necromancy, yet it long puzzled the scientific optician, and even now is little known or believed. The researches of various scientific men have established the fact that the phenomenon is due to very minute differences of curvature in the polished face, differences so minute that they do not affect the ordinary use of the mirror as a looking-glass, and that can be detected only by delicate optical tests. The only remaining mystery has been as to how these delicate differences of curvature were produced in exact correspondence to the pattern on the back. The makers themselves are often in ignorance of the magic property and do not know which of their mirrors possess it and which do not. The mirrors are cast in moulds and afterwards polished by hand, and it is held by scientific men that the difference of curvature is caused by the metal yielding unequally under that pressure of the tools used in scraping and polishing, the thin parts naturally bending more than the thick. This accounts for the mirrors becoming magic.

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