

## Science Siftings

### BY 'VOLT'

#### Coal Tar Dyes.

If a pound of coal is subjected to a dry distillation and the products and residual treated chemically—the process for obtaining the well-known coal tar colors—it will yield enough magenta to color 500 yards of flannel, vermillion for 2560 yards, aurine for 120 yards, and aliarin sufficient for 155 yards of red cloth.

#### The Softness of Lead.

Lead (according to *Cassier's Magazine*) is said to act like steel at ordinary temperatures in liquid air. It will serve as a helical spring, for example. This behaviour of soft, non-elastic metals is very interesting. It shows how very important temperature is. Just as iron is soft and inelastic at a high red color, so lead is dull and soft at ordinary temperatures, for it is well on its way to be melted.

#### Ice Caverns.

The water produced by the melting of glacier ice in summer flows down through crevices to the bottom of the glacier, and forming a channel by erosion, emerges often as a large stream. In the Arctic regions these phenomena take place on a very large scale. The Danish expedition to the north-east coast of Greenland, conducted by Mylius and Erichsen, discovered and explored vast caverns thus formed by glacial streams. Some of these caves are sixty or seventy feet in height and more than a mile long. In winter the streams cease flowing, but the caverns or tunnels remain ready to receive the streams of the following summer.

#### Seasons on Mars.

Some important changes on the surface of Mars strongly tending to confirm the theory that the planet enjoys changes of seasons similar to those experienced on the earth have been detected by Dr. Friedrich Archenbold, director of the Treptow Observatory in Berlin. The alterations, which occur in the vicinity of the Martian south pole, were first discovered as the result of a series of highly successful photographic experiments in 1894. The white spot known as the polar cap on the southern half of Mars disappeared from view. It has been conjectured that since that time a period of summer had been prevailing there, for the white spot has now again become visible, as is shown by Dr. Archenbold's photographs, which reveal at the polar axis a well-defined white area bearing strong resemblance to the ice-fields at the terrestrial poles.

#### Glass Bricks.

The use of glass bricks for building purposes is growing in popularity in many European cities. As a means of admitting light to dark hallways and basements, these transparent blocks have been most satisfactory, and there has been no loss in stability of construction when they have been substituted for the ordinary clay brick. They are especially adapted for any building where cleanliness, light, and a uniform temperature are desired. Hot houses, hospitals, ice factories, railroad stations, and partitions in the interior of houses are a few examples in which the efficiency of the glass brick has been thoroughly tested. In the city of Hamburg in a number of instances they have been utilised in place of windows, thus admitting light in walls which police and fire regulations would otherwise have required to be blank. For fireproof walls the bricks are made with a wire coating to prevent the shattering of the glass when subjected to extreme heat.

#### Early Clocks.

Since celebrations are the order of the day, why not observe the sixth centenary of the introduction of clocks? It was, we are told, in 1309 that the first clock known to the world was placed in the tower of San Eustorgio, in Milan. The greatest astonishment and admiration were manifested by crowds who came to see the timepiece. In 1344 a clock was installed in the palace of the nobles at Padua. This was a wonder of mechanism indeed, for, besides indicating the hours, it showed the course of the sun, the revolutions of the planets, the various phases of the moon, the months and the fetes of the year. The period of the evolution from the clock to the watch was 71 years, not so very long, all things considered, and the record of the first watch is 1380. A half-century later an alarm clock made its appearance. This, we are told, was looked upon by the people of that age as 'un instrument prodigieux.' The fortunate possessor of this clock was Andrea Alciato, a councillor of Milan. The chroniclers have placed on record that this clock sounded a bell at a stated hour, and at the same time a little wax candle was lighted automatically. How this was done we are not told, but it must not be overlooked that until about 70 years ago we had no means of obtaining a light other than the tinderbox, so that the Milanese must have been centuries ahead of us in this respect. Not much progress was made with the watch until 1740, when the second hand was added.

The only certain protection from the effects of a bad cold or harassing cough is TUSSICURA.

## Intercolonial

The Irish National Friendly Societies of Melbourne are taking steps towards the formation of an Irish Regiment.

The *Freeman's Journal* says that there are no less than eight Catholic hospitals in the archdiocese of Sydney, not one of which receives any subsidy from the Government.

The Catholic candidates returned at the recent State election in South Australia were Sir Jenkins Coles, Hon. J. V. O'Loughlin, Hon. L. O'Loughlin, and Mr. W. J. Denny. Sir Jenkins Coles is a Conservative; so is the Hon. L. O'Loughlin. The other two are Laborites.

Rev. Brother Hughes, who is at present in Queensland, collecting for the building fund of the new Novitiate of the Christian Brothers, has met with considerable success in the archdiocese of Brisbane, where he has received a letter of commendation from his Grace Archbishop Dunne.

The Rev. Brother Barrett, of Nudgee (writes the Brisbane correspondent of the *Catholic Press*), who is often designated the grand old man of the Christian Brothers in Queensland, is leaving next week for Europe on a business trip. He expects to be back before the end of the year.

The Rev. Father Dunne, who recently passed through a very severe illness, was at Wellington (N.S.W.) recently presented by his parishioners with a purse containing 100 sovereigns, to recoup him the expense incurred by his illness, and at the same time as an expression of appreciation of his work, especially amongst the sick.

The Cardinal's health (says the *Catholic Press* of April 14) has much improved, and his medical adviser, Dr. MacCarthy, is quite satisfied with the progress towards recovery made by his Eminence, but insists on rest for a few more weeks, at the end of which he expects the Cardinal will be able to resume duty as actively as ever.

The many friends of the Rev. J. O'Neill, pastor of Castlemaine, will learn with regret (says the *Advocate*) that the rev. gentleman is at present in a low state of health. Some two years ago he had a twelve months' trip to the Old Country. He returned last April in improved health, but has suffered a relapse. His Grace the Archbishop has granted him another twelve months' holiday. Father O'Neill's trip has, on medical advice, been cancelled, and the farewell social which had been arranged is abandoned.

At a meeting held recently in Armidale his Lordship the Bishop, who presided, stated that the Cathedral building fund now amounted to £7550 cash in hand, and that when the additional donations that were promised were handed in the total would be £9213. Several districts, he said, had not yet been visited by him, but he had no doubt but that the result of his forthcoming appeals in these places would advance the funds over another £1000. He explained that some changes had been made in the original plans, and that the dimensions of the proposed building would be 115ft by 60ft, and the spire would be 152ft in height. When constructed there would be ample accommodation for about 1500 people.

On Sunday, April 10, death removed from the ranks of the Australian clergy the Right Rev. Mgr. Hand, V.G., of the diocese of Maitland, where he had labored for forty years. The passing away of this kind-hearted and cultured priest (says the *Freeman's Journal*) is a heavy blow to the priests and people of the diocese. He had been suffering for some years with a serious throat affection, which gradually increased in its seriousness until, at the end of January, he was compelled to give up his priestly work and to place himself in the hands of his medical adviser, Dr. John Harris, and Sisters from Lewisham Hospital. Then followed ten weeks of intense suffering, with death the only hope for relief. Dr. Hand was born on August 15, 1847, at Granard, County Longford, Ireland, and was educated at a classical school there, and at All Hallows' College, Dublin, where he completed his studies, but was too young for ordination. He went to Maitland in 1870, and on April 24 of that year he was ordained to the priesthood in St. John's Cathedral by the late Right Rev. Dr. Murray. From 1870 to 1874 he acted as one of the assistant priests in St. John's Cathedral parish, and in 1874 was appointed Administrator of the Cathedral. In 1880 Dr. Murray appointed him Vicar-General and Administrator of the diocese during his Lordship's absence on a journey to Europe. When the Diocesan Consultors were first instituted in 1887, he was among the first appointed to the council by Dr. Murray, and he held that office till his death. On the death of Dr. Murray, Monsignor Hand was appointed Vicar-General in conjunction with Monsignor Meagher, of Singleton, and he administered the diocese during the absence in West Australia of the Bishop of Maitland. In 1896 an election was held for the recommendation of a priest to be appointed by the Pope as Coadjutor-Bishop of Maitland, and the late Dr. Hand was chosen as dignissimus, but he was himself so averse to accepting the office of Bishop that he declined the proffered dignity.

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