

Science Siftings

BY VOLT

Heat Endured by Mankind.

During the reheating of the furnaces in an iron establishment in England (says the *British Journal of Science*) the men worked when the thermometer, placed so as not to be influenced by the radiation of heat from the open doors, marked 120 degrees. In the Bessemer pits the men continue a kind of labor requiring great muscular effort at 140 degrees. In some of the operations of glass making the ordinary summer working temperature is considerably over 100, and the radiant heat to which the workmen are subjected far exceeds 212 degrees. In a Turkish bath the shampooers continue four or five hours at a time in a moist atmosphere at temperatures ranging from 105 to 110. In enamel works men labor daily in a heat of over 300 degrees. On the Red Sea steamers the temperature of the stokehole is 145 degrees. And yet in none of these cases does any special form of type of disease develop itself.

The Migration of Birds.

Mr. E. Kay Robinson has an interesting comment in *The Countryside* on the migration of birds—as to whether they are guided by instinct or the wind. His remarks refer to experimental markings at Alnwick, and are: 'In concluding some notes on bird migration last week, I said: "The more one studies bird migration the more one realises how completely the birds are at the mercy of the winds and the weather." A good illustration of this is afforded by the results to date of the constant marking of young woodcocks hatched on the Duke of Northumberland's estate at Alnwick. One of these marked birds has been killed in the Highlands, another in the South of England, and a third in Ireland; but the majority have totally disappeared. Manifestly this result cannot be brought into accord with any theory that birds possess an "unerring instinct" which guides them in any particular direction. No, their only guide is the wind; and a very treacherous guide, too, for birds of Britain and West Europe, with the wide Atlantic on one side of their proper course.'

An Accurate Clock.

In the observatory of Columbia University is one of the most accurate clocks in the world. It has run for several months with a mean error of only fifteen-thousandths of a second and a maximum error of thirty-thousandths of a second per day. That means that it does not vary more than half a second a month, or six seconds a year. Compare this with the first pocket time-piece, the 'animated egg of Nuremberg,' which required winding twice a day and varied an hour and a half in the same time! Compare it with some of the highest priced watches manufactured to-day, which often vary more than ten seconds a week, and you will have some idea of the refinements in the science of measuring time. Yet even this accuracy is surpassed by some famous timepieces, if the trade magazines are to be believed. There have been accounts in them of clocks or watches that have varied less than a second in periods as long as ten years. The clock at the University of Columbia is an astronomical clock. It is surrounded by a glass case in which a partial vacuum is maintained, and in order that the case may not be opened or disturbed the winding is done automatically by electricity.

Basal Metals into Gold.

There is something almost sensational in the interview with Sir William Ramsay, published in the *Matin*. This famous savant asserts that he sees no reason to doubt the possibility of the transmutation of the basal metals into gold. This, after all, is only a natural development of the revolutionary discovery made in the last few years. The ancients sought to transmute metals to gold, and by their researches in the art of alchemy, developed the modern science of chemistry. The modern chemist laughed with superior scorn at the ancient alchemist. His experiments taught him that atoms of the elements were eternally immutable. For a hundred years this was a firmly-held scientific theory, on which the whole structure of chemical theorising was built. Then came the discovery of radium, and it was found that the elements are transmutable. Sir William Ramsay has turned copper into an inferior metal of the same species—lithium. He sees no reason why an emanation of radium should not construct as well as disintegrate, and he believes it will not be impossible to obtain gold from silver. So the quest of the alchemists, at which modern science laughed up to a few years ago, is now considered by well-informed scientists as within the region of feasibility.

Intercolonial

Opening a bazaar at Bunbury, Premier Moore said as one who had travelled through the length and breadth of Western Australia, he recognised the good which was being accomplished by the Catholic Church, and the whole community was under a debt of gratitude for the educational work done by that Church. It is seldom that a man in Mr. Moore's position has courage enough to give his honest opinion on this matter.

Father Andrew Horan, administrator of the parish of Ipswich, Queensland, has been compelled to relinquish parochial duties for a few weeks, in correspondence with the directions of his medical adviser, who has ordered a complete rest by the seaside as a means of recuperating spent vigor (says the *Catholic Press*). Father Horan went to Ipswich thirty-five years ago as a young priest, and he has been there since. During his administratorship nearly £200,000 has been spent on land, schools, churches, and convents in various places throughout the extensive parish. In Ipswich alone there is £60,000 worth of church property, including St. Mary's, a magnificent temple, which cost £43,000. Most wonderful of all is the fact that the parish has little or no financial obligations to meet.

His Grace the Archbishop of Hobart is expected to arrive in Tasmania about the middle of February. His Grace (writes the Hobart correspondent of the *Freeman's Journal*) received the pallium recently from his Holiness Pius X. at Rome. During his time there the Archbishop delivered an important lecture on the resources of Tasmania and the progress of religion here and in the Commonwealth. He took a prominent part in the Jubilee celebration in Rome as well as in the Eucharistic Congress in England, and also delivered addresses in Ireland and Scotland, and spent some time visiting important educational establishments in Belgium and France, and part of Germany. He has arranged for a branch of the Irish Christian Brothers to be established in Hobart next year.

Mr. J. L. Forde, who, until his departure for his home trip some ten months ago, represented the Hobart *Mercury* in Launceston, has been offered, and has accepted, the position of editor of the Melbourne *Advocate* (says the *Tasmanian Monitor*). The position is one for which Mr. Forde is in every way fitted, and we are pleased to know it will bring him a bigger salary than that which he received while on the *Mercury* staff. Mr. Forde was beloved by his press colleagues in Tasmania. He fully realised in his own person the Newman description of the gentleman, one who knew not how to give offence, and he superadded to it a willingness to oblige which made us all his debtors and tempted us to tax his good nature perhaps too often. We wish him success in his new sphere of work. We find, indeed, the truest guarantee of this success for the new *Advocate* editor in the thoroughly practical Catholicity that has uniformly marked his life. Such witness to his worth is, we know, distasteful to him, but there are times when truth must be told, even though it gives pain to one whose religion has its home in his heart and in his life and is not worn for outward display. We congratulate the *Advocate* upon its new editor, and wish him and his paper success.

His Grace Archbishop Kelly received a most enthusiastic welcome home at a crowded gathering in St. Benedict's Hall, on the evening of January 13, when he was presented with an illuminated address and substantial cheque. His Grace, in the course of his reply, gave an account of his travels, and in conclusion said:—You have presented me with a cheque, but I am not in debt. I have experienced kindness everywhere, I wanted nothing, so I cannot take your cheque. Man wants but little here below, nor wants that little long, but I take possession of the money to hand it to our administrator for the benefit of those good ladies and gentlemen—some of them genuine-born Australians—who are carrying out the great work of education in this parish—I mean the Good Samaritan Sisters and the Marist Brothers. If it will stretch far enough—I do not know the amount—I would recommend Westmead Orphanage for a share, where many of our lads receive a home, education, and training; also some of the other orphanages where our children may be placed. The nuns and brothers save us a dreadful responsibility, and we cannot give them too much. I also recommend the St. Vincent de Paul Society's mission of looking after the poor children brought before the Children's Court, who are provided with shelter until the society can procure a Catholic family into which they might be adopted. These are grand works, which appeal to me so much that I am glad to be able to give them some little help.'

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