

## Science Siftings

BY 'VOLT'

### The Highest Telephone.

When it is completed, the highest telephone in the world will be possessed by Italy. They are constructing a line to the top of Mount Rosa, which is about three and one-eighth English miles in height. Queen Margharita has contributed so much toward the completion of the enterprise that the observatory and lodging on the mountain have been given her name. There are, however, some who maintain that the telephone line will be a failure, in consequence of the difficulty of fixing the poles securely.

### Burglar-proof Glass.

Consul William Bardel, of Rheims, reports that a new French plate-glass has been brought out which is practically burglar-proof. While an ordinary plate-glass, such as is usually put into jewellers' shop-windows, can be smashed by a single stroke of a metal-faced mallet, it is not possible to break this new plate-glass in this manner. In an experiment made, a large piece of cast-iron was thrown violently against the window, but the only effect on the glass was a small hole measuring one or two inches. Several shots of a revolver loaded with jacketed bullets were then fired at the show-window, but the window suffered no damage except that the bullets entered to a depth of a fraction of an inch. The plate-glass which will stand such usage is ordinarily made of a thickness of  $\frac{3}{4}$  in. to 1 in. If desired, even a heavier glass can be made without diminishing the transparency.

### Peculiarities of Volcanoes.

The volcanoes of the Mediterranean, and of the Eastern and Western Coasts of Africa, are all situated on a line, and all the volcanoes of the world have this remarkable linear arrangement. It is as though they were situated on lines of weakness in the earth's crust, where great fissures had allowed of the escape of the pent-up forces from within. Another remarkable feature in connection with volcanoes is their proximity to the great ocean basins. All the Continental volcanoes lie along the coast line, and the islandic ones are of course situated in the midst of water. This relation of volcanoes to the sea is very suggestive when we remember that the explosive violence of a volcanic eruption is due to the escape of highly-heated steam; in fact, in a sense a volcanic eruption is like a steam-boiler bursting. The popular conception that a volcano is a burning hill is erroneous, for fire does not occur during an eruptive discharge, neither is there any smoke. What has been mistaken for flame is the glow of the molten lava, and the dust mingled with steam at a distance looks like smoke. A volcano need not be a hill at all; it is essentially a fissure through which super-heated steam, fragments of rock, and lava are discharged with explosive violence.

### Lightning and Thunder.

By counting the number of seconds in the interval between lightning and thunder it is possible to figure approximately how far from the observer is the scene of the storm. Sound travels 1100ft a second, so multiply the number of seconds by 1100, which will give the distance in feet from the point where the lightning flashed. For example, if 10 seconds have elapsed the distance away will be 11,000ft, or a little over two miles. It might be added that, as light and lightning travel so much faster than sound, if one survives after hearing the crashing peal he can be sure he is safe. Remembrance of this will dissipate terror. Thunder can be heard a relatively short distance only. Strong cannonading can be heard as far off as 70 or 75 miles, while thunder is usually not farther away than 12 or 15 miles. In only exceptional instances does the interval between thunder and lightning amount to 100 seconds, so that the extreme distance at which thunder can be heard may be put down as about 21 miles.

### A Peculiar Impossibility.

It is impossible to throw a few drops of water on a red-hot stove. The water can never touch the stove at all. What is seen is a few drops rolling rapidly over the surface, gradually getting smaller and smaller until they disappear. If the drops are on a perfect level place one can see under them to the other side of the room, thus proving that they are not in contact with the stove itself. What actually happens is that the bottom of the drop changes at once to steam or vapor on coming close to the hot surface, and this vapor is supplied by the drop as it gradually goes away. So the drop rests on a cushion of vapor until it is entirely dissipated. This state of water is known as the spheroidal state, and is of interest simply on account of its peculiarity and seemingly paradoxical behaviour. The reason why the drop is not immediately evaporated or changed to steam is also very interesting. The water vapor that intervenes between its under surface and red-hot stove is a very bad conductor of heat, and consequently the full intensity of the heat cannot get to the water itself, only the amount transmitted through the vapor being available for this purpose.

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## Intercolonial

Monsignor Byrne, of Goodwood, Vicar-General of the archdiocese of Adelaide, was on the occasion of the celebration of the golden jubilee of his ordination to the priesthood presented by the clergy with an address, a golden chalice, and a purse of sovereigns. Monsignor Byrne is 76 years old, and a native of Dublin.

The Very Rev. Father James Byrne, acting Administrator of the Cathedral parish, Brisbane, on his return from a three months' holiday, was tendered a very enthusiastic reception by a representative gathering of his people, and presented with a purse of over 140 sovereigns.

His Grace the Archbishop of Melbourne received a cable message on April 23 from the Irish College, Rome, stating that the Right Rev. Dr. Reville (Bishop of Sandhurst) and the Right Rev. Dr. Corbett (Bishop of Sale), who were announced by cable as being seriously ill in Rome, are both improving.

Bishop Gallagher, of Goulburn, opened a new church at Bowning on Sunday, April 24, in the presence of a large gathering. The building, which is handsome, and of local stone, cost £700, and with what was handed in at the blessing of the foundation stone in October last and since—the collection realised £90—only £100 now remains to be paid off.

Rev. T. D'Arcy, of Cowper, in the Lismore diocese, passed peacefully away on April 25 at Longreach, Queensland, the cause of death being an affection of the throat. Some time ago Father D'Arcy visited Ireland with the intention of joining the Vincentian Order, but ill-health compelled him to return to New South Wales. He then took up his duties in the Lismore diocese.

A pioneer priest of the archdiocese of Melbourne, in the person of Rev. Dr. Horan, passed away at the presbytery, Bacchus Marsh, on April 14. He labored for over 35 years in various missions of the archdiocese, 25 of which he spent at Bacchus Marsh. The funeral took place at Maddingley cemetery. Residents from all parts of the Bacchus Marsh district attended, and the cortege included 130 vehicles and 40 horsemen. The children of St. Bernard's school marched in front of the hearse, also members of the Hibernian Society. There were about 40 visiting priests, and at the church a Solemn Office and Requiem Mass were held. The Very Rev. Dean Phelan, V.G., presided.

In connection with his approaching departure for Rome, his Lordship Bishop Kelly was recently entertained at a social in St. Catherine's Hall, Greenough (says the *W.A. Record*). There were over 150 persons present, representing every religious denomination in Greenough. Mr. Hugh Hammersley, J.P., occupied the chair. During the evening an address and a substantial cheque was presented to his Lordship by Mr. J. M. Drew, M.L.C., on behalf of the residents of Greenough. Prior to the presentation the Rev. Mr. Haining (Anglican), who, with Mrs. Hamilton, was present, made a most happy speech, which showed the warm friendship which had for some years existed between himself and Bishop Kelly. The chairman also spoke in felicitous terms of his Lordship, who made a feeling and interesting speech in reply.

The annual conference of the H.A.C.B. Society, Victoria District, No. 1, was opened on April 20 in Echuca, when about 100 delegates were present. The district board reported that the value of the funds of the society in the State of Victoria amounted to £67,122 9s 11d, made up as follows:—District funeral fund, £18,601 5s 2d; district general sick fund, £517 9s 6d; district management fund, £197 2s 9d; branch sick and funeral fund, £37,993 7s 6d; branch management fund, £2512 2s 1d; branch benevolent fund, £923 17s 11d; other branch funds, £323 11s 6d; ladies' funeral fund, £951 14s 1d; ladies' sick and funeral fund, £4438 11s 10d; ladies' management fund, £331 6s 11d; ladies' benevolent fund, £87; other ladies' funds, £23 17s 4d; juvenile funeral fund, £17 10s 3d; juvenile sick fund, £63 5s 10d; juvenile management fund, £39 5s 11d; other juvenile funds, £101 1s 4d. The various funds in the district and branch showed a total increase during the year of £4906 16s 7d.

The news of the death of Alderman E. W. O'Sullivan, M.L.A., was not unexpected, for he had been ailing for some time (says the *Catholic Press*). To say that the public life of Australia has lost one of its most noteworthy personalities is no exaggeration, for the late Mr. O'Sullivan was, above all things, a man of strong character and fearless convictions. Numbers possibly never agreed with his politics, but there were few citizens throughout the State of New South Wales who did not admire his fine candor and rugged honesty of purpose. During his parliamentary career there were numerous scandals, and many people in high places preferred riches to honor, but Mr. O'Sullivan remained to the day of his death above all temptation, and carried to his grave a stainless name. Beginning life as a 'printer's devil,' he rose to be a Minister of the Crown, but success never spoiled him; he remained to the end a sturdy democrat, a friend to the poor, a man who never chose his friends for their social position. He was big-hearted and tender, too, and if he has not left behind him a great deal of this world's goods, it is because his purse was ever open to those in need.