

Science Siftings

By 'VOLT.'

Queer Facts About Colors.

Experiments have been made in Europe to determine what color in a soldier's uniform is the least conspicuous to an enemy. Of ten men, two were dressed in light grey uniform, two in dark grey, two in green, two in dark blue, and two in scarlet. All were then ordered to march off, while a group of officers remained watching them. The first to disappear in the landscape was the light grey, and next, surprising as it may seem, the scarlet. Then followed the dark grey, while the dark blue and green remained visible long after all the others had disappeared. Experiments in firing at blue and red targets, made at the same time, proved that blue could be more easily seen at a distance than red.

The First Electric Railway.

So far back as 1837 a car propelled by electric power was run upon the Edinburgh and Glasgow Railway, but the cost of producing electricity from batteries, the only means then known, was too great to allow it to be used commercially. The invention of the dynamo-electric machine rendered it possible to use electric power economically, and the first practical demonstration of applying this system to railway propulsion was at the Berlin Exhibition of 1879, where a short line, designed by Werner Siemens, was worked with complete success. In 1881 a permanent electric tramway, one and a-half miles long, was established at Lichterfelde, near Berlin.

Land and Water.

In our schooldays we learnt that water covers three-fourths of the earth's surface, and land the other fourth. This statement dates back to a time when very little was known about the distribution of land and water in the Polar regions, and needs to be considerably revised in the light of recent discoveries. Taking account of the results of the latest Polar expeditions, Professor Wagner estimates that the ratio between land and water is 1 : 2.42; in other words, that about three-sevenths of the earth's surface is land, and the rest water. This estimate assumes that only 10 per cent. of the surface north of latitude 80deg. north is land; an assumption that may be considerably modified, says the *Scientific American*, by the explorations of the great unknown region north of British America and Eastern Siberia.

A Speaking Cinematograph.

A new machine has been invented which not only takes and produces animated photographs, but records photographs of the sounds and reproduces them in unison with the pictures. So far there has been great difficulty, when using the gramophone or phonograph and cinematograph together, in getting the actions illustrated on the screen and the voices of the singers or actors to synchronise, but with the new invention this difficulty is entirely overcome, and the sounds are produced by a new process which entirely does away with the mechanical methods employed hitherto, so that the sounds are claimed to be natural and free from the hissing and scratching associated with the needle or stylo of mechanical reproducers. The voice is made to act on a sensitive electric contrivance which regulates the light falling upon a moving strip of film, passing through the camera at the side of the film on which the pictures are taken. Two photographic records are thus obtained—one of the animated pictures, the other of the sounds. In the reproducing machine the photographic band of sound records is used to regulate the strength of a beam of light falling upon a highly sensitive photo-electric element, and this regulates the sounds set up in a powerful telephone which is connected with a large trumpet. The sounds are produced entirely by means of this ingenious combination of photography and electricity, and are pure and natural, and the voice is reproduced at the actual instant shown in the cinematograph pictures.

ARCHBISHOP MANNIX ON TEMPERANCE

In all the twenty-four years of its existence there has never been such a large assemblage of members of the Catholic Total Abstinence League of the Cross at an annual meeting as gathered on a recent Sunday afternoon at the Cathedral Hall, Melbourne. The chairman, Very Rev. Father S. Hegarty, president of the league, addressed about 1100 people. He briefly pointed out the flourishing condition of the league, and stated that in twenty-four years 20,000 certificates of pledges taken had been issued to the children, who had at the time of Confirmation also signed a pledge for abstinence.

His Grace Archbishop Mannix, who was heartily welcomed, said he was in no position to speak on the temperance question in Australia, as he had not yet had time to look into it; but he would give some aspects of the problem in Ireland. One of the consolations he found on coming to these shores was the existence of a vigorous branch of the Total Abstinence Association. He was afraid that Ireland had got a bad name in this matter of drink and temperance. It was scarcely a consolation to know that the Irish did not consume as much drink as the Scotch or English. But there was room for improvement in all countries. Dr. Mannix referred to the work of Father Mathew in Ireland—a work good, but not lasting. But inspiration was left, and great strides had been made in the last twenty-five years. The advantages of causing children to take the pledge could scarcely be over-estimated. The priests in Ireland had taken up the cause of temperance. There was always difficulty in getting people to change their mode of living, and so the movement in Ireland had begun at the beginning, the young men and women and the students being enrolled as total abstainers. Dr. Mannix then elaborated the way in which a Jesuit Father, a 'rabid total abstainer,' had gradually inculcated the principle of temperance into the students at Maynooth College. There a band of ten students formed a total abstinence league; until to-day half the students from that college left having taken the total abstinence pledge. But throughout all the college schools this Jesuit Father had sown the seed, and the result to-day was a great difference in the people of Ireland. The young priests who went out from the colleges to the parishes had advocated the temperance cause. In any work that had to be accomplished in Ireland to-day the co-operation and hearty assistance of the clergy of Ireland was necessary. Anyone who visited Ireland next year to see the opening of Parliament would note the number of young girls and boys in the streets coming from offices and the 'jarvies,' or whatever they were called here, who wore the Total Abstinence Association badge. From his own experience of twenty-five years amongst the people he no longer found them after Mass dawdling about the streets 'treating' one another on holidays, fair days, or Sundays—for though the front doors of the hotels were closed on Sundays, there was always the back door—until they went home with evident signs of drink; but they went straight home, and were able to talk civilly to the people at home. The only way to stimulate the temperance movement in Australia was for some one man who had got the idea of total abstinence deeply rooted into him, to throw himself heart and soul into the work of the cause. He had great belief in this being made a religious movement and a Catholic movement, supported and sustained by the Catholic institutions. Of course, it had to be recognised—and he certainly recognised the fact—that only a limited number of the population would become total abstainers. There was a number of people throughout Australia who might be good Catholics, but not total abstainers; yet did not go to excess in drink. There was no reason why, because one did not see eye to eye with a person, that one should abuse him. Harsh words spoken in the Total Abstinence Association of those outside would not help their cause. Had many who condemned intemperance had the troubles and worries they might have gone down under the strain. 'Help where you can, and never have a harsh word for anyone, man or woman,' was the motto to observe.

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