

Science Siftings

By 'VOLT.'

The Necessity of Ballast.

Have you ever wondered (says a writer) why it is that a bird flies so surely and straight where he wants to go, while a butterfly flits about in such a haphazard way? Those of you who had had to do with boats will know what ballast is, and how necessary it is to a boat's even, steady progress. The weight of the boat should be well down in the water. The bird is like a well-ballasted boat. The heavy muscles and the stomach, with its weight of food, are all in the 'hold,' so to speak—all down as low as possible—and the expanse of the wing is not great enough to outbalance this. In the case of the butterfly the wing expanse is so great and the weight of the body so little that the insect flutters about, driven out of its course by every breath of air.

Telegraph Lines in Tropical Countries.

In tropical countries the maintenance of a telegraph line in good order is a constant uphill fight against all manner of interrupting enemies that operators and linemen in this country never dream of. In tropical South America the wires get tangled up with the cable-like web of an immense spider, which, dripping with dew or rain, makes cross connections, 'short circuits,' and 'grounds' almost daily. Ants often destroy the poles in a few weeks. In the West India Islands the turkey buzzards make life miserable for the telegraph and telephone people. These big, heavy birds—the only scavengers—abound in great numbers. They roost on the wires or fly against them, and invariably break them off short. In one large town the telephone lines that ran by the public market had to be put underground because the buzzards congregated there in great numbers, rested on the wires, and broke them almost nightly. On the pampas of Argentina the herds of practically wild cattle rub and butt against the poles, and frequently break them down.

The Study of Air Currents.

Until men began to navigate the air and study its currents and movements little attention was paid to the conditions of the upper atmosphere, and such matters as atmospheric tides and top currents completely encircling the earth were of seemingly little interest. Since men have flown, and especially since men have flown and fallen, we have heard a great deal in a vague way of air currents. Recently Mr. Lawrence Hodges in a paper before an English scientific body gave some unique facts about air tides which are not generally known. The moon, we know, causes the marine tides by its attraction. It draws the water on the surface of the earth toward it in a hump on the side that is exposed to the lunar influence, and draws the earth itself away from the water on the opposite side, leaving a corresponding hump of water. The air, it seems, is affected in the same way. The layer of atmosphere about the earth rises, falls and flows more freely than water, because it is lighter, so the tide comes more quickly in the air at a given spot than the marine tide. This rise and fall, however, means just as much to the navigator of the air as the tide in the sea does to the sailor, and has to be accounted for. The most remarkable current, however, is one constant stream in the atmosphere running from west to east completely around the earth in the upper atmosphere. This was first brought to public attention when the volcano Krakatao blew a cubic mile of matter into the upper atmosphere in the '80's. The lighter particles were seen to make a complete circuit of the earth seven times in this circumglobular current before they finally disappeared.

The drawing of prizes in the Riverton art union has been postponed to May 9. Holders of art union blocks are requested to send in blocks and unsold tickets before the date of the drawing....

Intercolonial

Mr. J. M. Dodd, Mayor of Gundagai, recently made a handsome gift to St. Patrick's Church, Gundagai, in the form of a bell. The presentation was an Easter gift, and the bell is much appreciated locally.

On Easter Monday the Victorian State Governor (Sir John Fuller) opened the Druids' gala and bazaar at the Exhibition Building, in aid of the St. Vincent's Hospital. It is anticipated that £10,000 will be realised as a result of the effort.

The new cathedral, which is being erected in Armidale by his Lordship Bishop O'Connor, will be the third largest in Australia when completed early in October next. Prelates from all parts of the Commonwealth will be at the opening ceremonies, which are to be on an elaborate scale, marking the achievement of a great work in a suitable and fitting manner.

At the annual meeting of the A. H. C. Guild in Sydney the other day, the Warden-General reported that the membership stood at 4682, whilst the funds amounted to £35,000. There was an increase of 565 in the membership last year. Mr. P. S. Cleary, the new Warden-General of the guild, is a native of Victoria, but has lived in Sydney for some years. He is an active figure in all Catholic and Irish movements; but it is as a writer he is most widely known (says the *Catholic Press*). On European affairs he is an accurate authority. He speaks and reads French and German, and is as well acquainted with religious and political movements on the Continent as in Australia.

General regret was felt in Catholic circles throughout Australia at the news of the death of Rev. Charles O'Connell, S.J., which occurred suddenly on April 2, at the Presbytery, Flenferrie, Victoria. Father O'Connell was about to leave the presbytery to attend 8 o'clock Mass, and while walking down the passage was seized with a heart attack, to which he had been subject for years. He was placed in a chair, but died almost immediately. Father O'Connell was 72 years of age. He was born in the city of Cork. Educated at first at St. Sulpice's, Paris, he afterwards completed his studies in Maynooth College, Ireland, where he was a contemporary student with the Archbishop of Melbourne and the Bishop of Ballarat. After being a priest in the secular mission in the diocese of Cork, he joined the Jesuits in 1871. Before coming out to Australia in the early eighties, Father O'Connell taught in Clongowes Wood College. The most of his time in Australia was occupied in teaching. He was lecturer on mental and moral philosophy at St. John's College, Sydney, and also taught at Riverview College, Sydney.

The Rev. Father Pigot, S.J., who is in charge of the seismological observatory at St. Ignatius' College, Riverview, arrived in Melbourne on April 9, after his trip to Europe, undertaken to see the members of his family in Ireland, and also in connection with the work of the observatory. Amongst the European observatories he was to have visited was the Pultowa Observatory, St. Petersburg. Prince Gallitzin, director-in-chief of the Russian Seismological Department, and president-elect of the International Seismological Conference, sent him a pressing invitation to make the visit, and Father Pigot intended to go, but the Russian Government interferred. There is an old prohibition against members of his Order entering Russia, and when application was made by the British Foreign Office that it should not be enforced to prevent a purely scientific visit of a few days' duration, the authorities declined to waive the law in favor of Father Pigot. Later on, however, permission was granted on the representation of Prince Gallitzin, but Father Pigot, owing to illness, was unable to take advantage of the privilege.

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