

"Tropical Nature," we read as follows:—"A systematic planting of all hill-tops, elevated ridges, and higher slopes, would probably cure the bad effects of the intermittent rainfall of Central India; whilst the action of forests in checking evaporation from the soil, and in causing perennial springs to flow which may be collected in reservoirs, would serve to fertilize a great extent of country."

Major Powell evidently disagrees with the results of Wallace's observations, but the facts are quite opposed to his theories. Forests do not evaporate moisture nearly so fast as bare ground; and although denuded hill-sides may favour the accumulation of snow-drifts, yet they allow the rainfall to drain off rapidly, and cause dangerous floods; loosening of the soil on hill-sides; avalanches; silting up of river-beds; and frequently give rise to the complete devastation of cultivable lands at the foot of the hills, as the material washed down from above is spread over them by the floods in the form of silt, gravel, and boulders.

In Dr. Schlich's "Manual of Forestry," at pp. 43 *et seq.*, we read that experience in Germany shows evaporation from forests to be only two-fifths of that in the open country, and that the balance of water retained in forest soil increases rapidly with the altitude, so that evaporation in mountain forests may be reduced to about 10 per cent. of the rainfall. We also know that, in France and Germany, mountain forests have long been looked upon as preservers of moisture and feeders of springs. In 1889, the French Government spent 3,192,800 francs in *reboisement* works in the Alps, Pyrenees, and Auvergne; and this almost entirely for the indirect benefits resulting from forests to the mountains, as the plantations and embankments which form the *reboisement* works are too costly ever to yield a direct revenue commensurate with the heavy expenditure incurred in such remote and inaccessible places. If, however, Major Powell's proposed denudation of the Rocky Mountains were to be effected, besides its disastrous indirect results, America would suffer from a greatly curtailed supply of timber to meet the ever-increasing demands of a vast continent, which cannot depend on any adequate supply from abroad. We see that in the McKinley Act the Government of the United States already acknowledges its own short supply by withdrawing all import duties from Canadian timber; and it is for Canada to assure its own future prosperity by establishing a State forest service to prevent the exhaustion of the Canadian forests, now that they are likely to be fully utilized.

Up to the present time, the Forest Department of the United States has been chiefly occupied in collecting forest statistics and encouraging private planting, but what is really required is to induce each State in the Union to establish a practical control of its own still existing forests.

The Americans have recently refused to join in a postal federation of English-speaking countries, on the ground that they are now to a large extent German-speaking as well; it is a pity, therefore, that they do not listen to the warnings of the German forester, Dr. Mayer, who has studied the forests of the Rocky Mountains and has given the last word of German scientific opinion on the utter absence of a State forest policy in the United States, in his recently published work on the forest trees of North America.

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Throwing-Sticks and Canoes in New Guinea.

I HAVE just received here my copy of the February number of vol. xix. of the Journal of the Anthropological Institute, in which I have read, with the greatest interest and appreciation, the long and valuable account of the western tribe of Torres Strait, by Prof. Haddon. With regard to the throwing-sticks, of which, on p. 332, he says, "the heavy spears of South-east New Guinea are hurled by a throwing-stick which differs from any Australian implement," I think some error must have been made by his informant. I never saw a throwing-stick in existence, or in use, during my three years' residence in the country, either in the interior, along the south-eastern peninsula, in the Louisiade Archipelago, or on the northern coast as far as Mitre Rock. If these implements do exist on the southern side, they must be very rare. The first spear-thrower from New Guinea brought to England, as far as I am aware, was, nevertheless, the one brought home by me in 1888, which is now in the British Museum. It came, however, from the German possessions on the north-east coast, either from Finch-haven, or from the Augusta River, if I recollect correctly, and was given to me in Cooktown.

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In the same paper, on p. 384, occurs this passage with regard to canoes:—"I was much puzzled when I first went to Torres Straits by occasionally seeing a canoe with a single outrigger. I afterwards found that it belonged to a Kanaker from Ware [? Mare], one of the New Hebrides, residing at Mabuag, and that he had outriggered a native canoe according to the fashion of his own people. When I was at Mabuag, some natives of that island were fitting up a canoe in imitation of this one, and with a single outrigger. Here a foreign custom is being imitated." The bulk of the large canoes seen on the south-eastern coast at Motu-Motu, Port Moresby, Kerepunu, and in Milne Gulf, have no outriggers at all; while along the coast in small canoes, and in both large and small in the Louisiade Archipelago, the single outrigger is the prevailing form. It is the canoe indigenous to the region, and is undoubtedly not an introduced or imitated custom. The single outrigger in Torres Strait may be an imitation, but it is also a true New Guinea model.

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October 29, 1890.

Pectination.

I HAVE been somewhat disappointed to find that no one can suggest a better explanation of the pectination of birds' claws than that which I gave in NATURE of December 4, 1890 (p. 103). As this is the case, however, perhaps I may be permitted to add a remark to what I then said. It has been pointed out to me by a friend that the lateral position of the serration is not so disadvantageous for scratching purposes as I had imagined. While gladly admitting this—which removes a difficulty from the explanation—I still think that my observations must not be taken as conclusive.

It would be most useful and interesting if an observer could be found to give time and attention to representatives of the different orders of birds which possess this peculiarity.

E. B. TITCHENER.

Inselstrasse 13, Leipzig, January 7.

The Flight of Larks.

THE extraordinary flight of larks to which the Rev. E. C. Spicer refers was observed at Bournemouth. The birds appeared to come across the Channel in thousands, and in a few days had entirely disappeared. There were certainly some fieldfares among them.

ALFRED W. BENNETT.

PROFESSOR VIRCHOW ON THE CONSUMPTION CURE.¹

THE important communication made by the renowned German pathologist at the last meeting of the Berlin Medical Society is a severe shock to the opinions of those who expect that Koch's mysterious lymph will prove applicable in every case of consumption. Prof. Virchow gives the result of his observations on twenty-one cases that have died, after treatment with the lymph, up to the end of December. Since then, six or seven other cases have come under his notice, but have not yet been completely examined. Of the twenty-one cases, sixteen were phthisical. The remaining five included a case of joint tuberculosis; a case in which lung tuberculosis was accompanied with carcinoma of the pancreas; another had empyema; the next had pernicious anæmia, slight changes in the lungs, and tuberculous pleuritis; and, lastly, comes a case of tubercular inflammation of the arachnoid.

It appears, from an examination of these cases, that the lymph has an action on tuberculosis of internal organs similar to that which it has already been seen to exert on external portions of the body similarly affected. The signs of an intense irritation, such as redness and swelling, are very generally to be met with. An excellent example of this action is afforded by the above-mentioned

¹ Reported in the *Berliner klinische Wochenschrift*, January 12, 1890, p. 47.