BUCHANAN'S LATERITE.

SIR,—In your March number Mr. Maufe asks whether Buchanan's laterite is forming at the present day. Many years ago it fell to my lot to examine the district through which Buchanan was travelling when he first used the name. At the date of my visit there had been no suggestion that hydrates of alumina played any essential part in the constitution of the rock, and the great question of the day was whether laterite had been formed in situ or was of detrital origin. My conclusions [1] were in agreement with the views that are now generally accepted. Laterite is originally formed in place by the decomposition of the rocks on which it rests, but this primary laterite is often broken up, redistributed in a detrital form, and reconsolidated. A purely detrital laterite is usually easy to distinguish, but the two varieties may be mixed in various proportions.

I had no doubt then, and I have no doubt now, that lateritization is still going on in the valleys of South Malabar and upon the gentler hill-slopes, up to a height of at least 150 feet above sea-level. It was common to find the more siliceous bands of gneiss rising two or three feet into the base of the laterite, while in the intervening bands there was no sharp line between the gneiss and its decomposition products, and these decomposition products passed without a break into Buchanan laterite above. Below an altitude of 150 feet it was not easy to find any gneiss which had not been more or less lateritized. Is there any stronger evidence that kaolinization is still going on in the English climate ?

Farther inland, however, where the country becomes a deeply dissected plateau, the relics of the plateau are capped by hard old laterite, and there is a sharp line between the laterite and the gneiss on which it rests. Here it certainly seemed as if lateritization had ceased. I supposed that when hardened laterite reached a certain thickness it protected the rocks beneath from further change ; but this explanation did not seem very satisfactory.

I saw no laterite above 500 feet, though gneissic monadnocks rise from the plateau to a much greater height. Time did not allow me to do more than examine one or two of them in a rather cursory fashion, but laterite caps are usually conspicuous from a distance.

It should be noted that the name " laterite " was first used by Buchanan in the journal of his stay at Angádipuram, but he was not applying it especially to the deposit in that neighbourhood. He was describing the characters of the rock so widely spread through South Malabar.

My personal acquaintance with the laterite of the east side of India is limited ; and my impression that lateritization has ceased in the Madras area has not such a firm foundation as my impression that it has not ceased in the lower parts of Malabar.

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[1] " Geology of South Malabar," *Mem. Geol. Surv. India*, vol. xxix, pt. 3.