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TILE-MOSAICS

OF

THE LAHORE FORT.

BY

J. PH. VOGEL, PH. D.

Illustrated by seven Page Plates in Colours and eight Monochrome Plates.
in sun-baked summits and barren sides of hills which, not very long ago, were clothed with all the glory of tropical vegetation. It is not easy to appreciate all the mischief that has been done. The siting up of waterways alone means commercial loss to the whole country side. It also means agricultural and pastoral loss to those from whose possession, the soil itself has slid away, past recovery. In many places in the Southern Konkan district good soil is only now found in depressions on the surface of the laterite rock of the district, from which it could not be washed away. The whole community must suffer also from the increased cost of fuel and timber.

It is easy, in the light of our present knowledge, to condemn the heedless policy of the past, but I doubt whether it is for us in England to cast the stone. Though England has done a great deal towards the education of scientific foresters, we have the testimony of Sir Joseph Fayrer that it makes one almost ashamed, when travelling almost anywhere on the Continent, to see how comparatively well the woods are cared for, there, and how they are neglected here. "There were miles and miles," he is reported to have said, "especially in the north, where there were only little bits of cover here and there, thoroughly neglected and of no use at all except, perhaps, as shelter. There was no knowledge and no care, trees were planted and left to grow or be blown down by storms, and there was practically no re-planting."

* Such a remark would not, I think, be applicable to any rural district of British India at the present day.

It was not, however, until the increasing difficulty of meeting demands for public works indicated unmistakably the existence of a timber famine that the Indian Government realised the gravity of the situation. According to Dr. Schlich the remedial measures at first adopted were only "half-hearted." But when their insufficiency was made clear a special State Department was organised. The efforts which preceded that event were not, however, unimportant or without effect on subsequent arrangements. Indian baptists had long urged on the Government the necessity for establishing a regular system of forest administration and preventing, in the public interests, the continued destruction of public property of enormous value; and the dawn of a new era was marked by the appointment, in 1847, of the late Dr. Gibson to be Conservator of Forests in the Bombay Presidency. The most important duty assigned to him was the maintenance of the supply of teak for ship-building to the Government dockyard in Bombay, and his work as a pioneer of practical forestry was of special value in Western India, where he was familiarly known as "Daddy Gibson," and is still remembered with affection by the people of the Junar district above the Ghats, where he had his headquarters. As early as in 1847 the well-known name of the late Dr. Hugh Cleghorn, who has been described as the father of scientific forestry in India, appears in a report on the proposed conservation of forests in Mysore. In the following year our Chairman, General Michael, who was then Lieut. Michael of the 39th Madras Infantry, and has been described by Sir Joseph Fayrer as the father and pioneer of practical forestry in India, was entrusted by the Government of Madras with the organisation of an establishment for working and conserving the public forests near Coimbatore and Cochin. He opened out forest roads and timber slips down the mountain passes and cleared belts of bushwood to preserve young saplings from fire. Indeed, in the Anamalai teak forests he made "the first recorded attempt to protect Indian forests from injury by annual jungle fires."

† Also by giving employment to the hill tribes he secured their co-operation in his plans. In his discussion on a paper on Forestry, read by General Michael before the Society of Arts in December 1894, Sir George Birdwood referred to certain attempts in the same direction made about the same time in Bombay and Tannahorim, which, however, met with no success, partly because they were on too ambitious a scale, and partly because the ancient forest rights of the people were not sufficiently considered. "General Michael," he said, "set to work in a more modest manner and in a far more conciliatory spirit, and after six years his exertions, which completely broke down his health, were crowned with such success that the Court of Directors in London at once took up the subject warmly, and rapidly extended the Madras system of conservancy all over India and as much of Farder India as was under their rule." I trust our Chairman will forgive my quoting these words in his presence. I have felt myself bound to quote them in justice to my subject and in deference to you who look to me for a full statement of facts. In the same discussion General Michael was referred to by Sir Joseph Fayrer as "certainly one of the great benefactors of India."

No account of Indian forestry, however summary, would be satisfactory without a reference to his services. It was the enthusiasm born of a love of woodland life, innate in-such men as Dr. Gibson and himself, and the out-of-door experience acquired by them and others, whether as foresters or sportsmen, and interested as such in every phase of forest craft, which really prepared a firm foundation for the stately fabric of scientific forestry raised by their successors.

(To be continued.)

* Journal of the Society of Arts, vol. xiii., p. 197;
† Lieut.-Col. Fayrer on "Forestry in India," The Scottish Geographical Magazine for 1897, p. 576.
INDIAN TIMBERS.

During the early stages of settlement, the climate of India was neither too cold nor too hot. Subsequently, as settlers began to settle in fertile valleys, forest lands along the banks of the great rivers were more and more cleared for cultivation. Such a proceeding was inevitable, and it would be idle to regard it as an interference with the order of nature, for, so long as men cannot meet the actual needs of human beings, it was really in aid of those harmonious methods by which, during several centuries, the earth has been fitted for human habitation. But man must take his part in the further development of these methods, if the great end in view is not to be defeated, and if successive generations of men are to pass on the inheritance they have enjoyed, not unimpaired merely, but improved to the best of their power. Such a conception of human duty was, however, unknown to the nomadic tribes, who, according to Dr. Schlich, for a period of more than 750 years carried on the work of destruction, not only in fertile valleys, but alike on hills and plains, as they moved from one pasture ground to another. In his preface to the catalogue of the Indian exhibit at the International Forestry Exhibition, held at Edinburgh in 1884, Sir George Birdwood says that it was the destruction of vegetation over wide extended areas at the time of the troubles following the decline of the Moghal Empire which thenceforward rendered India liable to desolate droughts and the consequent calamity of often recurring famines. "In the course of time," says Lieut.-Col. I. Bailey, formerly Superintendent of Forest Surveys and Acting Inspector-General of Forests in India, and now Lecturer on Forestry at the University of Edinburgh, "not only were large areas entirely cleared for cultivation and for village sites, but more numerous flocks and herds, driven for their daily food into the jungles, led to the impoverishment of a forest belt of ever-increasing width around the occupied tracts." During the hot season dry grass, fallen leaves, and dead wood were set on fire in order to clear the ground for a fresh growth of grass for cattle, and also to simplify the pursuit of game. But such practices, with those of overcutting and digging up roots for fuel, soon destroyed the protective forest growth, and heavy rains then washed away the soil. Cows and bullocks could no longer be kept in good condition on the scanty herbage that remained, and the villagers began to keep large flocks of goats, "against whose hoofs and teeth," as Lieut.-Colonel Bailey remarks, "it is well known that forest growth cannot contend." The village goats are still formidable foes to young plantations, though, in the estimation of Sir Clements Markham, "the uneducated man," in his dealings with forests, goes far beyond the goat in his capacity for mischief.

It would be satisfactory to be able to say that a wiser policy prevailed after the establishment of British rule. But, unhappily, that was not the case for many years. "With the advent of British rule," says Dr. Schlich, "the destruction of the forests became more fierce than ever." The extension of cultivation "at the cost of the still existing forests" was carried out for many years "without any inquiry as to the ultimate effects." With the introduction of railways a further impetus was given to cultivation in the immediate neighbourhood of railway lines and stations; and, with the steady increase of prosperity under a settled Government, the demands for timber and firewood increased enormously throughout the country, and thus the reduction of forest areas went on with all its attendant evils. In illustration of the evils which attend and follow the reckless destruction of forests, especially in hilly regions, Lieut.-Col. Bailey cites the case of the outer Himalayan spurs in the Hoshiarpur district of the Punjab, where, as the rock is very friable, serious damage has been caused by denudation. Within the memory of living men these hills were well covered with forests or tall grass, and the hill streams ran evenly in well-defined channels. But the natural vegetation has now almost entirely disappeared, the hills are crumbling away, and loose rocks and stones are carried down by the streams, which are often several hundreds of yards wide, and deposited in the plains below. "Thus, not only have the hills themselves become a dismal and profitless waste, but the fertility of extensive areas of cultivation near their base has been completely destroyed by the stony deposits laid on them." Similar causes have produced similar effects in other parts of India. I can myself speak of some of the districts to the south of Bombay, between that great western ramp of the tableland of the Dekhan—the range of the Sahyadri Ghats—and the sea, a narrow, hilly tract of land known as the Konkan, and traversed by numerous streams having their sources in the Ghats. Within living memory many of the hills were well wooded, and some of the streams were navigable by larger craft than any that can now make their way to the towns and villages on their banks. Here, as elsewhere, disastrous results have followed the destruction of forests. The mould which, in the shelter of the jungle, had been formed during centuries on the rocky surface of the hills—on which it had been bound by a living network of fibrous roots—became exposed to the full force of the monsoon rains. The average annual rainfall near the sea amounts to about 80 inches, and gradually increases till, about 30 miles inland, at the fudge of the Ghats, which forms the watershed of the rivers flowing eastwards and westwards, it reaches an average of about 250 inches in the year. A wide view of these Konkan hills is obtained from the hill station of Mahableshwar, on the crest of the Western Ghats, at a distance of about 90 miles in a south-easterly direction from Bombay, and is, I think, worth preservation. I once had there with Mr. Allen Shuttleworth, who for many years held with distinction the charge of the Forests from which he has lately retired. Like other officers of his Department he was a scouring in indignant terms of the folly and the mischief of which the evidence lay bare before us.
15.—Elephant piling squares of teak timber in the timber yard at the Bombay-Burma Trading Corporation, Ltd., Rangoon.

(From the India Office Photographic Record).
16.—Rafts of Teak Timber on the river Rangoon, alongside saw-mill of Bombay Burma Trading Corporation, Ltd., Rangoon.
(From the India Office Photographic Record).
17. *Tectona grandis*. Vigorous Taungya Teak Plant of six months growth. Stump of Teak Tree girdled and felled between 1830 and 1840, showing stump of new tree produced. (From a photograph lent by the Director of the Royal Gardens, Kew).
22. *Eugenia Jambolana Tree.*

23. *Musical Instrument in Teak (From Kew Gardens)*
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AND

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THE THIRTY-SEVEN NATS,
A Phase of Spirit-Worship prevailing in Burma.

BY

SIR RICHARD CARNAC TEMPLE, BART., C.I.E.

In this work the story of the Spirit-worship of the Burmese races is explained in all its forms and the difference between the indigenous and imported varieties is clearly shown. The extent to which each variety overlaps and influences the rest is also fully brought out. In this way, an important part of Burmese social life, explaining many of the notions and beliefs of the people, usually hidden from the European observer, is made accessible to enquirers.

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