

an inquiry of at least as searching a character as that on which the original plan was based. In regard to this, I would again invite reference to the Indian Forest Department Code, the last edition of which contains the outcome of our experience in this respect. Working-plans in India were first introduced and framed by Sir Dietrich Brandis, the real founder of scientific forestry in that Empire. These plans extended mostly over large areas, and served their purpose brilliantly, but they were naturally very general in their scope; too much so to make them of permanent utility. Hereafter we went, owing to the arrival in the country of officers of high theoretical training, through periods of over-elaborated plans which cost too much money and time, and offered difficulties in regard to control. It was only when practice had mellowed our theory that the happy medium was struck.

"My visit to the colony has given me many opportunities of observing how necessary permanent working-plans are in certain localities, and I may be permitted to give a few of the many instances I have seen. The State forests between Creswick and Ballarat were years ago thoroughly ruined by entirely uncontrolled fellings on the part of the mining population: trees and poles were cut at all heights from the ground, which prevented the springing up of a healthy coppice, which, to a certain extent, would have grown on a self-established root system. An unsatisfactory pollard growth infested the ground. The mining industry collapsed, but luckily a limited demand remained for small timber. Mr. Perrin had at this period the well-conceived idea of taking a severe improvement felling through the forests, removing all diseased, badly-grown, and pollard trees. He had to open out the forests to what I should, without colonial experience, have considered a risky degree, more especially on a soil not naturally vigorous. The recuperative power of the *Eucalyptus*, however, in its natural habitat is something extraordinary, and the results of the operations have been thoroughly satisfactory. Near the 'White Horse,' however, we came to several areas through which Mr. Perrin had taken a very radical improvement felling, leaving only the best and most promising stems on the ground. These—it is almost incredible—the miners had appropriated, felled most recklessly, and partly removed under cover of Sir John McIntyre's Miners' Circular, which was shown to me on my expressing doubt as to its existence. I saw a repetition of the same vandalism in the Linton and Scarsdale Forests. Now, nothing would be easier than to frame straight away a rational plan for the working of these forests, and they would pay more than their expenses from the very outset.

"The present license system, which permits a scramble for the forest produce so long as it can be found anywhere, is at the bottom of much of the disorder which exists. It must disappear when a regulated utilisation of the forest is introduced, but otherwise when once the possibility of a given forest area has been fixed, and the exploitation has been arranged accordingly; it is a matter of no great consequence as regards forestry in what manner the forest produce is disposed of so long as the possibility is not exceeded. This question of disposal becomes a purely financial one. The trees may be sold singly or in blocks or compartments at a fixed royalty, or by auction, or they may be given away, if the State thinks fit.

"A lease for a number of years is especially adapted for sawmill industry, but a fixed royalty does in such cases frequently not represent the real value of the standing produce. This value is greatly influenced by the situation of the forest, its nearness to the market and other conditions, and a competitive tender with a minimum rate per 100 cubic feet will probably be the best gauge of the actual market value.

"I have met no instances myself, but have been credibly informed that many well-established sawmills had to be abandoned because the supply of timber payed out unexpectedly. This, of course, could not have happened if sufficient area of forest had been set apart for them under a preconsidered plan. Permanent sawmills create a constant demand on the forests, and may be relied on to pay a constant and considerable income on their output. Their establishment should consequently be encouraged, not by special or low rates, but by certain security of finding a permanent supply of raw produce within a reasonable distance. This is of much greater importance to the industry than favourable rates.

"In my opinion, sawmills should be established only in or near sufficiently large and well-situated forest areas from which a constant supply may be expected, under the provisions of pre-considered and formally sanctioned working-plans, the Government guaranteeing to the owners that such plans shall not be altered or deviated from during the time for which they have been sanctioned without the consent of the interested parties. Government should, however, never guarantee the actual permanency of the supply, as the best-considered working-plan may have flaws, or may be upset by unforeseen accidents.

"It is frequently argued that the forests of the colony are inexhaustible, or will at least meet the demand for hundreds of years to come. It is true that as yet no general scarcity is felt in the timber-supply of the country, but it cannot be gainsaid that the red-gum forests on the left bank of the Murray have practically disappeared within late years, and that the local demand for timber can in many instances not be so readily met as in former years. At present the fuel markets of Melbourne and other big towns, and of many agricultural districts, are to a considerable extent supplied from ring-barked trees, the remnants of former forests. I grant that there are enormous supplies of this timber; but it is, after all, dead material, and the wood that has not been consumed within the next twenty years or so will probably have rotted away. When this has happened the living forests will have to meet the whole of the demand, which during the same period must have grown considerably. It needs no great foresight to predict that with a growing population even the remote forests will gradually be indented upon and become valuable in their turn.

"I have as yet written only of the treatment of the natural forest areas, and in this the chief efforts of the State must centre.

"Planting on a large scale is costly, and it will be found that if an accurate ledger is kept of the original outlay and all its incidental expenses, artificial forest cultivation will repay the money and time spent on it only under very exceptional circumstances, and it is only in such circumstances