

The rights to straw, litter, and grass are, perhaps, the most prejudicial of any (regarded from a Forest Officer's point of view), as they consisted not only of the right to remove the grass found growing in certain tracts, but also to prevent any planting, which might at any time cause a cessation or diminution in its growth.

The Bavarian forest department forms, as in Prussia, a subdivision of the finance department, and is administered by a technical councillor and Oberland Forstmeister and three forest councillors at the head-quarters of the ministry (Munich). Bavaria being divided into nine provinces, there is also a forest councillor at the head-quarters of each province, and, as a rule, two *Kreis Forstmeister*, or inspectors, for each province. There are 74 divisions or circles, each with a Forstmeister aided by at least two assistants as supervising officers, 614 Oberforsters, and 1,622 foresters, sub-foresters, and overseers.

The *personnel* of the department thus consists of one inspector-general and member of council, 12 councillors (three in the finance ministry and one for each province), one director and 4 professors at the forest academy, 1 librarian, 17 inspecting and 74 divisional Forstmeister, 614 Oberforsters, 182 assistants to the Forstmeister (including 32 employed in the head-quarter and provincial offices) 624 foresters, 594 sub-foresters, and 401 overseers. Demarcation, survey, and valuation operations are, as a rule, performed by candidates or probationers for the post of the oberforster, as in Prussia; and, in fact, the duties of all grades may be said to be analogous.

The forest academy is at Aschaffenburg, near the Spessart, and is presided over by a director, aided by four professors, and an assistant or teacher. There were 165 students when I visited the academy, a larger number than I found at any other, and consisting, I was informed, mainly of foreigners, which speaks volumes for the good repute of the Bavarian forest system. Forest academy at Aschaffenburg.

The collection of specimens of timber struck me as being particularly good and well arranged. The specimens are almost all Bavarian, and for the most part collected from the various forests of the Spessart.

I visited the *Sachsenried* and *Frankenhofen* reviers in the *Kaufbeuern* division of the province of Schwaben, and was much struck with the fine growth of spruce, which surpassed any I saw in Germany, the trees being of great height, and with clean straight stems. Districts visited.

The tagwerk (less than $\frac{1}{2}$ of our acre) is here estimated to produce an average of 100 cubic feet per annum, which is very high, but I can well believe it after a personal inspection of the reviers. Planting of land, recently acquired by purchase, was being carried on, chiefly spruce with a little silver fir. In one part they were trying sowing along with corn, the expense of preparing the land, sowing, and clearing after removal of the crop, being borne by the cultivator. The experiment promised well. A large percentage of these reviers is at present in the oldest period, with trees 100 years old and upwards, which renders it difficult to work them systematically.

The Oberforster was busy with a forest road, which he was constructing under the most adverse circumstances, the material in the neighbourhood being bad, and allotment small.

I was accompanied on this trip by the assistant to the divisional Forstmeister, who was himself engaged, having appointed to meet several parties on important business. The assistant proved a most efficient substitute, and, as well as the Oberforsters, appeared thoroughly to understand and take an interest in forestry in all its branches. I was struck by the excellence of the forest house where we had luncheon, and could only wish we had something similar in India. I intended to have accompanied the Forstmeister to a gathering of forest officers on the frontiers of Wurtemberg, to which he was kind enough to invite me, but the weather turned out so bad that I thought it better to proceed to Lindau, at the foot of the *Boden-see* (Lake of Constance), where I called on the Oberforster, but did not do more than casually walk through some of the plantations, as it happened to be a public holiday. This revier is like those just mentioned, noted for the fine growth of spruce.

I next visited the reviers of Waldaschaff and Rothenbuch in the Spessart (province of Unterfranken). These reviers, with an area of 6,812 and 10,912 tagwerks respectively, consist mainly of hard wood forests, oak (chiefly the *Sessiliflora*) and the beech predominating, and are specially of interest from the fact that, notwithstanding a favourable soil and not unfavourable climate, the oak was at one time in great danger of disappearing altogether, giving place to the beech, and even less valuable trees, such as birch, aspen (*Populus tremula*), and that the main object during the past 100 years has been to encourage its growth and mitigate the damage done to some of the finest forests of the kingdom by mismanagement and neglect.

Space does not admit of the causes which led to the deterioration of the fine forests of the Spessart being detailed here; suffice it that they consisted mainly of the felling of the finest trees of the better description as soon as, or even before, they arrived at maturity, impoverishment of the soil by the removal of grass and leaves, which otherwise would have produced a fine rich humus, and the presence of a dense mass of underwood, allowed to grow unchecked and unthinned. The so-called "*plnter betrieb*" was then in force, and even this was not worked upon any principles of selection or conservancy, and it would perhaps be more correct to say that there was no system at all, and that the best trees having been recklessly felled, those of the inferior descriptions got the upper hand and prevented any young oaks coming up, whilst they drained the soil already impoverished by the baring of the grass of all its substance, and gave nothing in return.

Early in the present century the matter attracted attention, and every means have since been adopted to favour the growth of the oak, mixed more or less with beech, and, where requisite, with *conifera*, to improve the soil and cover the ground.

The result of these measures is now becoming apparent, and although we must not yet expect to find that regularity in growth and uniform appearance which characterizes the best-managed forests in Germany, I believe that nowhere else could one meet with finer clumps and individual trees than in the Rothenbuch Revier. The finest oak trees are now being left standing during two or even three periods of rotation, to supply an abundance of seed, and the greatest care is taken to check the growth of inferior descriptions, which will soon be rarely found in the forest.

In some of the more remote portions, where the humus had not been disturbed or destroyed, the