

evident that a private individual is not burdened by considerations of policy and the good of the people at large to the same extent as a State or even a community.

The forests of the estate are divided into sixteen reviers, each under charge of a *Forstverwalter*, Establishments, corresponding to the Oberforster of Prussia or Bavaria; and the whole upper establishments therefore consist of one Oberforstrath and one Forstrath (councillor) at Donaueschingen, and sixteen Forstverwalters in charge of the reviers.

Of the sixteen reviers, six are situated in the valley of the Danube, and consist chiefly of beech forests; three extend south of Donaueschingen towards the Boden See (Lake of Constance), and contain mixed forests of hardwood and fir; whilst the remaining seven are in the Schwarz Wald (Black Forest), two in the northern and five in the southern portion, and may be said to consist entirely of *coniferae*, i.e., spruce (*Abies excelsa*), Scotch fir (*Pinus sylvestris*), silver fir (*Abies pectinata*), black Austrian (*Pinus austriaca*), and a little larch (*Larix europæa*).

I had an interview with Oberforstrath Roth at Donaueschingen, and received from him the general information I have just stated, and an introductory letter to Forstverwalter Ganter at Rippoldsau, the revier mentioned in Dr. Brandis' memorandum as being the most generally instructive.

The Rippoldsau Revier is situated in the north-east corner of the Black Forest, "on the head-The Rippoldsau Revier. waters of one of the feeders of the Kinzig River." Rippoldsau itself, where the Forstverwalter lives, and where there is a large hotel and mineral springs, is about 2,000 feet above the level of the sea. The area is 6,459 morgen (Baden), equal to 5,812 English acres, and presents a diversified appearance of hill and valley, the former running up to 3,250 feet above the sea, with their steep sides clothed from base to summit with spruce and silver fir, which are the predominating trees.

I remained ten days at Rippoldsau, and inspected the several divisions of the forest, studying, at the same time, the general working plan and chart which the Forstverwalter placed at my disposal. The main points deserving attention are, first, the peculiar character of the working or management as compared with the forests I had hitherto seen; second, the system of forest roads and transport of wood by land; third, the floating down the narrow mountain streams, and afterwards on the Kinzig River itself. The peculiarity of the working consists in the lengthened period over which the felling or clearing of a block extends. This is often as much as forty years from first to last; in fact, it is difficult in many instances to say when the block passes from one period (the oldest) to another (the youngest), so gradually is the old crop thinned out and removed. This method, which has long been more or less in force in the Black Forest, is now finding favour in other parts of Germany, as already noted in the Hanoverian and Saxon sections of this Report, as it is found preferable to the quick clearing, or "*kahl abtrieb*," formerly so much in vogue. It need scarcely be pointed out, however, that it requires much attention and intelligent treatment to ensure the success of such a system; for the seed will not germinate nor the seedlings flourish without a sufficiency of light, and the forest officer must be ever on the watch to see that they get it; and again, much greater care is necessary in felling and removing the old crop when the trees are already surrounded with saplings than when the seedlings of the new crop are not above one or two feet in height, and in this the axe-men and foresters of the Black Forest are adepts; hence the damage done is really wonderfully slight, and a mere bagatelle compared with what it would be in less skilful hands. Peculiar features and system.

The turf and thick herbage is, as a rule, removed in patches in order to receive the seed and give it a fair chance of germinating and making its way, and the nature of the herbage or undergrowth has not a little to say to the rate of clearing or quantity of light to be admitted in order to carry on the natural reproduction to the best advantage.

It may be said that a clearing which extends over thirty or forty years differs little from the "Planter-betrieb" already alluded to; and there are, doubtless, some analogous points, but the similarity vanishes when the matter is carefully looked into, and there are many differences in the details of the system, which, whilst they require to be seen to be noted and thoroughly understood, effectually separate the one treatment from the other.

A great deal must always depend upon the circumstances of climate, situation, and establishments available, but the gradual clearing, with an eye to natural reproduction, in force in these forests, appears to me particularly applicable to our forests in Southern India, provided we can organize and retain in a state of efficiency, 1st, reliable employes to watch each tract and insure its treatment in a rational manner; and, 2nd, the workmen to fell and remove the old trees in anything like so careful a manner as those in the Black Forest. My own experience of our axe-men and woodmen in India is certainly not favourable to our arriving at anything approaching to such a state of perfection; but I have not had to do with those in the Anamullays, who, I presume, are the best; and it has not hitherto been considered necessary to pay much attention to the matter, although each year its importance must become more manifest. Analogous system apparently suitable for Southern India.

I was particularly struck with some "acquisitions" purchased by the Prince from peasants for 60,000 guldens (£5,000), which are gradually being converted from "*Hack Wald*" into fine high timber forest of spruce and silver fir. *Hack Wald* is a name given to a system formerly much in vogue in the Black Forest, and still pursued in remote, semi-civilized, and scantily-populated localities, and has some points of resemblance with our "kumari" or "ponakad," except that the main desideratum appears to be, as a rule, wood, especially hazels and oziars for hoops of barrels, baskets, &c., and not a crop of grain. It consists in clearing the ground of the "jungle" every sixteen to twenty years, cropping it for two years or more with grain or pulse, and allowing the coppice to grow up again. This treatment formed the subject of a very interesting discussion at the local forest gathering, or "*Verein*," last year, in which, although the treatment, viewed from a forest light, was universally deprecated and condemned, many reasons were brought forward and explained to the meeting for its retention, in remote localities at least, for some years longer, as affording employment and a livelihood to a certain class. Hack Wald.

The portion of the high marshy plateau of the Kniebis, included in the Rippoldsau Revier, has now for the most part been drained and planted with spruce, which, considering the poorness of soil, exposure to high winds, and severe winters, is doing fairly well.