

Outlines of the History of German Forestry.

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THE history of German forestry differs from that of other continents and countries in a number of characteristics: Being a part of the old civilization of the Occident, Germany's history of forestry outdates that of other continents, such as America and Asia.

Compared with other European countries, a difference can be made

(a) With regard to the moderate German climate, which compensates for the damage done by man, and only very seldom puts *hiths*, moors, or bare rocks and sands in the place of devastated forests.

A hundred and fifty years ago our famous classic Heinrich v. Cotta was not far wrong in saying:—"If all people would leave Germany, before long the land would again be covered with woods without any human influence."

(b) Another difference consists in a development, whose outlines can already be seen. It began before man founded his first settlements, at a time, when the country was totally wooded, and led over long periods of clearing, over the unrestricted using of the remaining 25 to 30 per cent. of wood during the following centuries, to a timely reflection on the importance of the woods within the household of nature and within the household of man (sustained yield forestry). This development proved that not only princes and landowners protected the forests and attended to the game, that not only scientists warned against unrestricted using, and invented methods of cultivation and preservation, but that in the end the whole people—basically having a positive attitude towards the woods—became conscious of their value, too.

Up to this day other countries have been either so sparsely populated, or economically underdeveloped that the forests are no problem at all for them (for example Africa, South America, and large parts of Northern Asia), or, only very recently, they achieved a state of balancing the accounts of stock and using, *id est*, a state of modern economy, as in the U.S.A. Therefore they have no history of forestry, but at most a history of woods. Some countries, such as Asia Minor and Southern East Asia, have a very old history of civilization and thus a history of forestry, it is true. But the negative attitude of the population towards the forests, the insufficient protection by the government, and the very unfavourable climate and geological conditions led to the complete destruction of the forests, often as early as 2,000 years ago.

Thus an end was put to the history of forestry for the time being. It is continued only nowadays from poor relics. Spain, Italy, Greece, Turkey, and China, for instance, have no continuous history of forestry.

The history of forestry, the main features of which I roughly pointed out in my introductory remarks, is therefore the history of man's economic dealing with the forests of his native country. It can assume the character of exploitation or that of lasting conservation. The history of woods, as it took place without any human influence thousands of years ago and the history of the development of present stands of forest areas or of single trees are objects of the history of the woods or of the chronology of the woods and the trees, but not of the history of forestry itself.

Though I have stated a certain superiority of the German history of forestry to that of other continents and countries, concerning its historical importance, its course, and its development to a highly constructive standard, I have to confess, on the other hand, that, neither in regard to its age as an economic operation, nor to its ethical standards is it ahead of all the continents and countries. We Germans would be glad to take the lead in some respect or other, and, at the time of our classical forestry writers and their great followers, we actually did take the lead. This was true during the whole nineteenth century, from Georg Ludwig Hartig about 1800, to Judeich and to Karl Gayer, the great reformer of silviculture, who died about 1900. But Germany is not only judged by its prominent forest scientists, but also by the economic results of its forestry in the course of the centuries up to now. In this respect other countries were more fortunate than ours, whether they were spared from sizeable revolutions and wars, like Switzerland and Sweden, or, whether they were more sparsely populated, or, already very early, realized the importance of forests as protection against the inclemency of the weather, especially avalanches and torrents. In this regard, we are inferior to the Alpine countries with their old and essentially positive history of forestry, and also to Scandinavia and Finland with their larger forest resources, their excellent forest administration and their favourable distribution of property.

The German history of forestry in its historical sequence as a history of economics can be divided into four periods :

I. Up to the period of the Carolinginas—Charlemagne and his successors—that is, up to 900 A.D.

II. The history of forestry from the end of the Carolingian dynasty and the assumption of power by the Saxon Emperors up to the end of the Middle Ages, that is, from 900 to 1500 A.D.

III. The two hundred and fifty years of the history of forestry from the beginning of modern times up to the middle of the eighteenth century, when the first scientists appeared.

IV. The modern history of forestry at the age of enlightened despotism, of the great social and liberal revolutions, of the Romantic

Movement, of industrialism and the world wars, that is, from 1750 up to the present time.

Let us look at the **early history up to the end of the Carolingian dynasty**. It is characterized by two facts :

1. The foundation of settlements by Teutonic tribes after the end of the migration of peoples and the occupation of land (settlement).
2. The first regulations for the protection of trees and forests.

With reference to 1 : In the times of Tacitus, when the peoples of the East had not settled yet, and there were only few cultivated regions, Germany was almost completely covered with woods. When the settlements were founded, the density of the population began to increase, though not continuously, and it was therefore, not marked by a homogeneous tendency of settling. Simultaneously with the first clearings and settlements in the forest regions during the fifth century—they were often retrogressive because of the plague and other reasons—by orders of the kings the first forest laws were issued. They prescribed a certain regulation of forest use and were called "*leges barbarorum*".¹ But this process of clearing and settlement reaches far beyond the Carolingian epoch, and comes to its climax about the year 1200, after several ups and downs. From 1300 up to the present date, the German woodlands have not altered on the whole and amount to about 25 per cent. of the total area.

The occupancy of land took place in the following manner : Tribes and families established separate settlements or farms and cleared the woods, but left frontier forests, just as they stood, as protection forests against hostile tribes. Furthermore, they left a wooded part of the common land at the outskirts of their village, which was called "*Allmende*". Its use was permitted to all members of the village community for their own supply of wood and for pasture. This co-operative structure, however, has been preserved only in few parts of the German speaking area, as, for instance, in Tyrol and in Switzerland. Later on, in most cases, the forests of the co-operative communities were taken over by the claims of neighbouring feudal lords or by the appearance of single powerful members of the community. A part of the forests was merged into the later political community or was divided among the members of the community and became the farmers' personal property.

The first personal forest property owned by the crown was acquired by the Carolingians, claiming all unappropriated land for themselves. According to their sovereign rights they guarded it by special laws—thus making it first a game preserve. Here only the kings were allowed to hunt certain species of game. Later on, even clearings were pro-

¹ At those times in Latin all Teutonic tribes were called barbarians, without anyone using the word in a derogatory sense. Of late, an Italian scientist delivered a lecture at the University of Goettingen, in which—much to the amusement of his audience—he told that the devastations of the Italian forests were not to be ascribed to the barbarians, but to the grazing of goats.

hibited. In other cases, they gave the wooded land to their vassals, counts, clergymen, and monasteries. These feudal lords in turn permitted colonists to settle, either making them proprietors of the land cleared by them—the using of the products in special parts of it included—or granting them the rights of *usufruct* in their own forests.

The latter was especially true in Southern Germany and in the Slavic regions in the East, which had been conquered after 900 A.D. In these parts of the country the use of litter, pasture, firewood, resin, and grass land,—increasing more and more during the course of the centuries and later-on called “Servitude” according to the Roman Law—did much damage to the forests, until these rights of use were annulled during the first half of the nineteenth century.

It is true that the use of wood during this first period was quite natural, for almost all objects of daily life, such as spoons, dishes, barrels, wheels, houses, ships, and wagons. The number of people, however, was still comparatively small, so that the forest and its resources were less endangered by the population meeting their demands of wood, than by their want of pastures for their cattle and soil for their very extensive farming. The first uses were the wild-bee-keeping, the fattening of pigs (mast), the grazing in the forests, and hunting.

With reference to II : **From the Saxon Emperors to the End of the Middle Ages :**

By conquests of land and confiscations, after the end of the Carolingian dynasty, the private property of the kings still increased so much that they were not able to master it by their own administration, the so-called “Maierhof-Legislation” (Villikation). So they tried to get rid of their private property. The enfeoffment with landed property, which by and by became feudal tenure by heritage, was added to the donations given to churches, monasteries, and feudal lords. Moreover, the kings, when running into debt because of wars or their increasing household requirements, gave crown-lands as a security and then failed to meet their obligations. Thus, at this time, the large domains owned by feudal lords or by the clergy came into being on different legal bases : by restriction and usurpation of the free co-operative communities and their being changed into manorial co-operative communities : by donation ; by enfeoffment ; or by the kings’ indebtedness to creditors. Forest property was also bestowed upon newly established towns, as in many cases the policy of the kings during the early Middle Ages was not based on the aristocracy, but on the towns.

During this long period of six hundred years, the yield of the forest almost exclusively consisted of natural products. The proprietor of the forest was often glad, if he was paid rent for permitting mast and grazing, and bee pastures, and if this rent was given to him in the form of natural products, such as corn, wine, or small domestic animals, for instance, poultry. It was not till the last centuries of the Middle Ages that a partial change towards the monetary system took place. As late

as 1200, a tithe ("decima") was paid for the mast of swine and money for stumpage and for the assignment of trunks.

Nevertheless, in this period only the beginnings of regulated forestry, namely the forests owned by towns, can be seen.

During the twelfth and thirteenth centuries they began to demarcate certain districts of forest, and to forbid any use of wood and pasture in order to give them a chance of reproducing naturally. At those times the deciduous forest was prevailing in large parts of Germany, because of its granting the greatest yield of mast, pasture, game, and firewood. Its strong tendency towards sprouting offered the simplest solution of the problem of re-afforestation. So, already in the fourteenth century, the use of deciduous forests was regulated according to supply and demand by a proportional dividing of the area in respect of the number of years of rotation; for instance, in Central Germany, at Erfurt, in the year 1359. In addition to this, the kings issued orders of re-afforestation, and, for the first time in the year 1368, in the Nuremberg Reichs-forest pine-trees were sown artificially. The consequence of this was the foundation of a real guild of pine-sowers at Nuremberg and Frankfort-on-the-Main.

For the criminal law in the realm of forestry, the old "rights of the people" (*leges barbarorum*) were still in power, until they were replaced by the local-community-laws ("Weistümer") within the range of the still existing common forests. What was allowed and what was forbidden were laid down for each forest by these laws called precedents. The penalties for offence against the forest- and game-laws and for poaching were often very severe and ranged up to capital punishment, which, however, was seldom carried out. Up to modern times the opinion was held that the purloining of unpiled forest products during daytime was no real theft and that it had to be punished less severely.

Up to the end of the Middle Ages the literature of forestry was very poor and almost completely supplied by the Roman literature of agriculture, by Ovid, by Marcus Publius Cato, and others. The only work of greater importance was that of Petrus de Crescentiis, senator of Bologna, which is based on Aristotle and the natural science of the Arabians, written about 1300 and first printed in Germany in 1471.

With reference to III: **From the Beginning of Modern Time to the Middle of the Eighteenth Century (1500 to 1750).** The mightier feudal lords, who later became sovereigns of the countries, and the minor feudal lords temporal and spiritual, under their protection and in alliance with them, took advantage of the decline of the German Empire on the one hand, and of the co-operative village communities on the other. In respect of their forests, the sovereignty of the lords—who were directly subject to the old Empire—increased, and more and more encroached upon the rights of private persons. This development finally reached its climax in the despotic police-state of the eighteenth century, which had emancipated itself from the power

of the Emperor and of the Empire. Many of the still-existing village communities disintegrated, too, and the land was distributed among the former co-operators. In this way they hoped to escape from the ever increasing encroachments on the common forests, and to be under less control as private forest owners. In still existing co-operative communities the chief co-operator, that is, the feudal lord, or in the case of larger communities, the sovereign of provinces or countries, participated in the yield by a third or a half.

Since the forest products remained highly vital to the population, the rights of use of the forests, which no longer were owned by them, were officially granted them now. Thus they were given a substitute for their former rights of the use of the common forests. Their financial reimbursement, however, became so small by the increasing depreciation of money that it was only a fee of acknowledgement. With respect to the user, the legal position of the feudal lord was only strengthened. (On the other hand the feudal lords often sank into poverty and became robber-knights.) It was only by and by that the servitudes proved to be such a hindrance to silviculture that, from the sixteenth century on, attempts were made to change their status again, namely, by pecuniary compensation and transfer of land. Thus, on the same area, the feudal property, which formerly had been common property, (the "Mark"), became the private farmers' or the communities' forest property (property of the political community).

Though the period of the clearings of the forests had come to an end in general, colonists still settled in remote parts of forests and clearings, for instance, in Lithuania and in the Alps, about 1800. Unclaimed forests were sequestered by the sovereigns of the countries (no longer the German kings as in former times). Apart from small remainders, in the course of time, these forests of the sovereigns came into the possession of the state, its last remainders as a consequence of the revolution of 1918.

Wherever the density of population increased, and trade was possible owing to waterways and old man-made highways, especially of course, in Southern and Western Germany, already at a very early time, silvicultural measures were prescribed. These modern regulations now took the places of the former precedents ("Weistümer") and local forest ordinances. These regulations differed from the old ones by a wider purview—the country, the province—and by their being more detailed. The first forest regulation of this kind originated in Wurtemberg and was issued in 1492, the year of the discovery of America. The last forest laws, however, were published in 1830, eighty years after the end of the period we have been dealing with.

First and foremost, the purpose of these forest-regulations was to diminish the impending or imaginary shortage of wood; and that was in accordance with the spirit of mercantilism, which demanded the concentration of available funds in the country for supplying the wants of the people, and postulated high inland revenues for paying the stand-

ing army. That was not only a matter of national interest; it also rose from the sovereign's care for his subjects, who still were dependent on the raw produce of wood. Above all, the forest-regulations accordingly included measures for economising wood and, in later centuries, frequently stimulated the further development of forestry in silviculture and in the arrangement of output. The first and most important orders given in this context, were those checking the rapid spread of the noxious goat-pasture for example.

When I speak about the importance of wood as providing people of that age with raw material during their whole life-time, I don't mean to say that the so-called secondary yield lost in importance between 1500 and 1750. After the end of the Thirty Years' War, that is after 1650, there was a rapid increase of inhabitants in Germany. They were still a rural population depending on their cattle, on honey and on iron for their tools. Thus they used the grass in the wood, the beech-nuts and acorns for feeding their swine (for there were no potatoes at that time). Furthermore, they used honey instead of sugar, charcoal for hammering iron, resin for burning-tar and oak-bark for tanning leather-skins. In this context, I must not forget to mention the growth of luxury at the courts and the keeping of large game stands as red deer and wild boars. In the 17th century, hunting absolutely prevailed against forestry; but the interest in silviculture had at least contributed to guard the woods against the trespassing of unauthorized persons and to preserve hard-wood for some further centuries. Yet the preference for hunting, on the other hand, contributed to diminish the reputation of the forest-keepers who were badly paid, whereas the hunters were highly esteemed. The large game stands were disadvantageous to re-afforestation and to the peasantry whose fields were devastated by the game.

Charged with that extensive burden, forest seeding could only develop very slowly under strong set-backs. The first beginnings of this development may be traced back even to the Middle Ages. At the close of the 16th century the cultivation of sprout forest already began developing into cultivation of coppice with standards. It was even as early as the middle of the 16th century that a certain system of felling areas existed, that is, felling areas ranged in one line. There was also a sort of group-cutting at that time, that is, a natural regeneration on small areas which, to-day, we would call "a group selection system". Nurseries and seeding of oaks were generally known in the 16th century. In the early years of this century, which, in Germany was very prosperous and furthered the wealth of her towns, people were familiar even with the practice of thinning. But a regular practice of re-generation with beech—the most important species of wood besides the oak—set in only at the beginning of the 18th century, after the Thirty Years' War had spoiled many promising beginnings of German silviculture and reduced her population to some few millions of inhabitants.

Little interest was taken in the cultivation of coniferous trees, which

—where conifers occurred most frequently—were even confined to some remote forest areas, though the pine-tree was the first species of conifer to be planted in the 14th century. The large felling areas, cleared by charcoal burning for the production of iron, were restocked by nature, although, in the 16th century, Scots pine was raised through artificial seeding in Northern Germany. The first attempt of artificial seeding of pine-trees in the Hartz-Mountains failed about 1680 and were not carried out more successfully before 1720. About 1750 the planting of spruce spread over to the west of its original border of Lower Saxony, and the *larch-tree* was introduced all over the country. The first American tree-species was introduced in Europe as early as 1536 (*Pinus strobus* came to Germany by way of England in 1705), but it was not before 1827 that the Douglas-fir was planted for the first time.

The *forest planning* may be also traced back to the late Middle Ages. As the division in the lay-out of square-miles was possible only in little woods, it was from the 16th century (about 1550) onwards, that another principle was established, which on the contrary made the arrangement according to cubic feet, and the increment that was to be expected for a hundred or two hundred years. *The first plannings* at the time were founded in Austria and Central Germany. At the same time, these forest plans provided an opportunity of supervising and of promoting the forest-state-authority. This opportunity was welcome to the mercantile state. At the beginning forest regulations were still given with the co-operation of the corporation of the landed gentry, who, later on, lost this right with only few exceptions. It was primarily in Southern and Western Germany that, since the end of the 17th century, private silviculture was largely controlled, yet this control was only exercised for communal forests and paysant-forests, though the feudal lord of a forest was personally instructed to control the forests of his subjects.

The High Catholic Clergy and the towns held a social position equal to that of the nobility. The former gave themselves forest-regulations, which were signed by territorial princes and the execution of which was under careful control. Everywhere the employment was prescribed, yet the degree of education of these foresters varied very much. Up to the 18th century they often came from the lowest social classes and were hardly able to read or write.

Literature:

Before the beginning of the 18th century, there actually existed no more than two important works about forestry: One of them was written by Johann Colerus in 1600. It belonged to that sort of literature which was to be found in everybody's home, as the Bible was. There everything that was useful to the household, including information about sowing and planting trees, was to be found. The second work of importance, I mentioned before, was that of Noe Meurer, a lawyer to whom we owe the texts of many forest-regulations. In the 18th century,

there were two types of self-made-man in forestry—there was no academic knowledge of forestry at that time:—(1) The so-called "hunters of the nobility", at the head of which stood the Saxon County-mining-official, Hans Carl von Carlowitz with his important work "*Sylvicultura oeconomica*"—which deals with forestry only, not with hunting; and (2) the so called "hunters versed in forest-knowledge" or "literary foresters".

Two remarkable characters of this group were Henry Wilhelm Döbel, the author of "Hunting-Practice" and Johann Gottlieb Beckmann, a passionate and great advocate of clear felling in coniferous forests and of artificial regeneration by seed and also a passionate opponent of the selection forest.

At that time, selection-felling was not yet an economic system, based on forest-scientific planning as it is to-day, but simply an arbitrary cutting-down of various stems according to their usefulness and without any consideration for silviculture; that is why this method, for good reasons, became more and more obnoxious.

Modern history of forestry since the middle of the 18th century.

The *development of land-ownership* was influenced by great transformations. In various regions of Germany, where the dynasties had changed over to the Protestant Faith, the ecclesiastical estate suffered serious *losses* by the Reformation. This process of secularisation was brought to an end by a *resolution taken by the Imperial German Parliament in 1803*. According to that resolution the ecclesiastical lands still existing fell to the secular territorial sovereigns.

Their ownership of the newly acquired estate was not unchallenged during the following year. Part of it passed to the state property as early as the 18th century, as happened in Prussia for example; another part was ceded to the state, when Germany became a Republic in 1918. The rest of their private property of woods was confiscated according to the act of expropriation of 1945 in the Soviet-Zone and fell in Western Germany within the scope of the land-reform, which, contrary to the conditions of the Soviet-Zone, were much more indulgent. The constant growth of the state-forest, was to some extent checked by the deprivation after 1820, when the government was obliged to give forest-land in exchange for forest-liberty. Germany, however, was not troubled with the wholesale trade of state-property owing to the theory of free-trade as established by Adam Smith-Austra, on the contrary, two and a half millions acres of woodland was sold to private owners.

In 1937 the private forest in Germany to the extent of nearly half of the total forest area was preserved partly in large, partly in middle-sized and small forest possessions. *The communal property* and that of public bodies, which survived from those of former march-associations and municipal-wood-owners, still amount to approximately one-third of the wood area.

The conditions of the German woods, which at the close of the Middle Ages, were passably satisfying, gradually changed for the worse through the increasing demands of factories and industries as well as through wars and the rapid growth of the population who still procured their necessities of life from the woods.

About 1800 the forests were in a *very bad condition*—unknown till then. It was since the middle of the 18th century that some prominent characters set to improve them, and thus saved the wood from destruction. These men of whom Germany has been proud even up to the present time were *Georg Ludwig Hartig*, who was the manager of the Prussian state-forest-administration from 1811 to 1837 and acted as teacher of forestry for half a century, *Heinrich Cotta*, manager of the school of forestry of Tharandt in Saxony from 1816 to 1844, *Johann Christian Hundeshagen*, a man of high intelligence, adherent of a speculative tendency of forest-science and creator of forest-statistics who taught in Hesse, especially at the University of Giessen in the first three decades of the 19th century, and *Gottlob Koenig*, who, at the same time, established a forest-trade school in Thuringia and made his mark in the field of forest-mathematics, and Friedrich Wilhelm Leopold Pfeil, combatant of the liberation wars against Napoleon, who, sometime later, was called to the school of forestry connected with the University of Berlin and was lecturer at the forest academy at Eberswalde in the north of Berlin from 1830 to the approach of his death.

The attempts to come to regulate conditions of the forest were of course accompanied by many failures and difficulties. *The German Liberation Wars of 1813* brought grave poverty and indebtedness upon Germany. On the other hand, German soldiers who joined in the American War of Independence conveyed knowledge of American wood-species. To Germany, that knowledge was expected to prevent the impending shortage of timber, but people were disappointed in their hopes. New impulses to the cultivation of exotic wood-species were given about 1880 by Chancellor Prince Bismarck and John Booth, owner of English nurseries, who met in Hamburg at that time.

The shortage of wood was to be met not only by the importation of exotic wood-species but also by the furthering of native and fast-growing deciduous species. In this context I think of the birch-mania "*Betulomania*" which, like the clear felling, had been furthered by the state already since the middle of the 18th century and nearly caused great damage because it was to transform the still existing high forests into bad sprout forests, fast-growing though they were. It was only in 1840 that the birch-mania was successfully brought under control after the shortage of timber had been removed by transport-inventions. But instead, another danger rose for the German forest. Its origin can be dated back to the middle of the 18th century, when, under the influence of Lord Minnigeride and, later, of *Georg Ludwig Hartig*, beech cultivation was put into a system which regulated forest operations. This system was the so-called *method of shelter-wood-felling* that was not

exactly the same as clear cutting but also marked the woods with the stamp of uniformity which was very dangerous and, above all, superseded all useful supplementary tree-species such as the oak for example.

Since the last change of climate, the German wood has been essentially a *mixed forest*; the misuse in cutting, however, altered the character of the forest. About 1800, people set to re-afforest the devastated woods, but that could be done only with the coniferous species that is with the pine and the spruce. Scientific training in habitat and forest soil was absolutely unknown at that time. In the middle of the 19th century, however, people didn't content themselves with merely afforesting run-down and devastated forest areas but they first applied *formulas*, the so-called "soil rent theory".

According to this theory the structure of the forest was constructively planned and not left to the laws of nature, habitat, plant-sociology and forest-geography. From this theory rose the notorious monoculture of pine and spruce which, to an increasing extent superseded the native and soil-fostering tree species such as oak, the beech and the fir and brought about much danger of storm, snow-drift, forest fire and insects. The reaction of the overstated theory which I mentioned before, was often spoken of as a "Boomerang reaction"; that metaphorically means that the wooden missile which was to serve for the increase of rent, returned and struck the forester down.

This development implied not an increase but a decrease of rent.

After all, we must recognize the good will of the 18th century to afforest part of the devastated woods and we even must recognize some temporary success which permit us to-day to transform the woods according to organic and biological principles so that they would survive crises of any kind. This process has not been concluded yet; we still are in the very heart of it.

The constructive work of the 19th century, the development of the theories of rent, forest organisation, silviculture and, finally, the re-establishment of laws which put an end to the transitory lawless conditions in forestry, provided standing crops amounting to many times more than what had been in existence about 1800.

Speaking of transitory lawlessness, I want to indicate that private forest culture was almost free throughout the 19th century and that consequently the capacity of the small forest property was more and more on the decline though, in most cases, it had already changed into tillage. The middle-sized and large private woods were preserved from devastation by tradition and by responsibility to the family and to the state. The state forest was cultivated according to approved conservation principles, though, frequently, it made people contrive rigid systems. The communal and corporation-forest preserved the strict *state control* which had developed from forest authorities of the sovereignty and gave it an active power for the following years. The state control never ceased to exist, especially in Southern and Western Germany, where

the communal and corporation forests were widely spread but also in other regions of Germany.

During the recent fatal war the German forests which again and again had been troubled with disaster underwent the last crisis. Even at that time, the standing crops faded away and were exhausted still more seriously after the end of the war. In the Eastern Zone all private forest property of more than 100 hectare was expropriated without compensation and became state forest. Anyway, the standing crops of the Federal Republic to-day amount to almost one thousand million cubic metres that is half of what the German Reich possessed in 1937. Compared with that year, the two zones together lost 22 per cent. of their forest areas. In 1950 the open areas not afforested ran to one million hectares in both zones. But with an immense impetus the Western Zone afforested three hundred thousand hectares of their open areas devastated by the war and is again about to carry their standing crops to a normal extent. The wood prices which had gradually become adapted to international standards, also contributed to secure the profitability of the forest-property. Now a fundamental change in the forest is being felt. Thus the use of all kinds of timber begins to extend upon the use of high quality timber; by degrees the consumption of wood gives place to the consumption of substitutes. But after all, there is no reason to fear a crisis in the German silviculture in view of the increasing density of population of the world and in view of the high demands of various assortments of timber as pulp wood, pit props and building timber.

Yet we want peace, as all people do, to stabilize our trade and industry and, with that, our silviculture, and we know that to-day a war would imply not only the destruction of the woods but also the ruin of all people.
