

COTTA'S PREFACE.

If the inhabitants of Germany should leave their country it would be all grown up with woods within a century. Since there would be nobody to use them, the soil would be enriched and the woods would not only increase in size, but in productive power. If, however, the people returned again and made just as large drafts as before for wood, litter and pasturage, the woodlands, even with the best forest management, would again not only be reduced in size, but also become less fertile.

Forests form and thrive best where there are no people—and hence no forestry, and those are perfectly justified who say: Formerly we had no forestry science and enough wood; now we have that science, but no wood.

One could say with the same justice: Those people are healthier who do not need a physician than those who do. But it would not follow that the physicians are to be blamed for the diseases. There would be no physicians if there were no diseases, and no forestry science without deficiency in wood supplies. This science is only a child of necessity or need, and need is therefore its natural concomitant; hence the phrase should be: We have now a forestry science because we have a dearth of wood.

Forestry, however, does not offer any nostrums and can do nothing against the course of nature. The celebrated physician Verdey said: "The good physician lets people die; the poor one kills them." With the same right one can say the good forester allows the most perfect forests to become less so; the poor one spoils them. That is to say, just as the good physician cannot hinder that men die because that is the course of nature, so the best forester cannot hinder that the forests, which came to us from past times, become less now they are being utilized.

Germany formerly contained immense, perfect, most fertile forests. But the large forests have become small, the fertile have become sterile. Each generation of man has seen a smaller generation of wood. Here and there we admire still the giant oaks and firs, which grew up without any care, while we are perfectly persuaded that we shall never in the same places be able, with any art or care, to reproduce similar trees. The grand-

sons of those giant trees show the signs of threatening death before they have attained one quarter of the volume which the old ones contained, and no art nor science can produce on the forest soil which has become less fertile, such forests as are here and there still being cut down.

The good forester then, also, allows the forest to become less, but only where it cannot be helped ; the poor forester, on the other hand, spoils them everywhere.

Without utilization, the forest soil improves constantly ; if used in orderly manner it remains in a natural equilibrium ; if used faultily it becomes poorer. The good forester takes the highest yield from the forest without deteriorating the soil, the poor one neither obtains this yield nor preserves the fertility of the soil.

It is hardly credible how much one can benefit or damage by the kind of management ; the true forestry science contains, therefore, much more than those think, who know only its generalities.

Thirty years ago, I prided myself on knowing forestry science well. Had I not grown up with it and in addition had learned it in the universities ! Since then I have not lacked the opportunity for increasing my knowledge in many directions, but during this long period I have come to see very clearly how little I know of the depths of the science, and to learn that this science has by no means reached that point which many believe to have been passed.

Many perhaps may be in the condition in which I was thirty years ago ; may they in the same manner be cured of their conceit ! Forestry is based on the knowledge of nature ; the deeper we penetrate its secrets, the deeper the depths before us. What the light of an oil lamp makes visible is easily overlooked ; many more things we can see by torch light, but infinitely more in the sun light. The lighter it grows around us, the more unknown things become apparent, and it is a sure sign of shallowness, if anybody believes he knows it all.

Our foresters can still be divided into empiricists and scientists, rarely are both united.

What the former considers sufficient in a forest management is easily learned, and the systematic teachings of the other are soon memorized. But in practice the art of the first stands to a

thorough forestry science in the same relation as the quack medicine to the true pharmacopia ; and the other often does not know the forest for the many trees. Things look very differently in the forest from what they do in books ; the learned man stands therefore, frequently, left by his learning and at the same time without the bold decision of the empiricist.

Three principal causes exist why forestry is still so backward ; first, the long time which wood needs for its development ; second, the great variety of sites on which it grows ; thirdly, the fact that the forester who practices much writes but little, and he who writes much practices but little.

The long development period causes that something is considered good and prescribed as such which is good only for a time, and later becomes detrimental to the forest management. The second fact causes that what many declare good or bad, proves, good or bad only in certain places. The third fact brings it about that the best experiences die with the man who made them, and that many entirely one-sided experiences are copied by the merely literary forester so often that they finally stand as articles of faith which nobody dares to gainsay, no matter how one-sided or in error they may be.

HEINRICH COTTA.

Tharandt, Dec. 21, 1816.

Heinrich Cotta, born in 1763 in Thuringia, said of himself : " I am a child of the forest ; no roof covers the spot where I was born. Old oaks and beeches shade its solitude and grass grows upon it. The first song I heard was of the birds of the forest, my first surroundings were trees. Thus my birth determined my calling ! " He became the grandmaster of his profession. His " *Anweisung zum Waldbau*," from which this preface is taken, first published in 1817, experienced many editions, the last one in 1865 edited by his grandson Heinrich von Cotta.