

## SCIENCE:

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## FOREST CULTURE IN HANOVER.

IN various parts of the United States the question has been raised, by what measures the preservation of forests and the plantation and culture of trees might be most effectually promoted in parts void of timber. In connection with this it might be desirable to learn something about the state of forest management in the province of Hanover. This province, the former Kingdom of Hanover, according to a report by Consular Agent Simon to the State Department, had rich tracts of forests in former centuries, which, in consequence of civil and other wars at various times, were reduced to desolate wastes and remained so until the first decades of the present century, particularly those extents between Hamburg and Hanover, which are known by the name of Luneburger Haide (Lunenburger Heath).

Besides those wars, another reason for such devastation is to be attributed to uncongenial management, such as division of common forests, by which they were dispersed and fell into the hands of people with small means, and thus were doomed to neglect and destruction. Those singly situated wooded tracts, for want of screenings, have greatly suffered by the detrimental, inclement winds, which is easily understood, since large forests will defy the violence of storms better than small woods.

Great credit for having made up for past neglect and faults is due to the celebrated Burkhardt, who, being a great authority in this matter, was appointed Director of the forest department in 1850. Part of the Luneburger Haide, as well as other tracts growing more and more desert by the encroachments of sand, have

been wooded with great pains and trouble at his instigation. To prevent the increase of sandy deserts those tracts were at first planted with fir-trees. These could, in some parts, after a number of years, be cleared and substituted by beach and other trees. How much the forests have been enlarged in this manner will appear by the following statement: The wooded surface amounted in the year 1850 to 1,217,625 acres; 1885, 1,551,900 acres. By such plantation of trees river-bank and sea shore tracts have been solidified. In order to promote the establishment of forests in every respect, the Government has granted large sums for the purchase of landed property unfit for cultivation to be turned into forest tracts. The Government is now keenly intent to unite again those formerly scattered wooded parts into one single tract. In the same way the Provincial Government and Klosterkammer (Administration of cloister funds) proceed by purchasing extensive stretches of soil. The Klosterkammer administers the large funds of the secularized cloisters of the former Kingdom of Hanover, now used for the support of universities, schools, and churches in this province.

Municipalities, communities, and even private individuals who are inclined to establish forest grounds and manage them rationally will receive loans at 2 per cent and even cheaper from the Provincial Government, to be reimbursed yearly by small instalments. Also, single subsidies are granted for once for the turning of large wastes into forest grounds. For the latter purpose the provincial government resorted to a new and original method, by using vagabonds, tramps, and prisoners not of a dangerous character for forest culture, and, indeed, according to experience, with great advantage both with regard to the workers and forest culture. In this manner about 9,000 acres were planted with trees by those troublesome classes within the years 1876 to 1888. Moreover, communities as well as private individuals have turned about 14,000 acres into forest grounds within the same period by means of subsidies afforded by the Provincial Government. Besides, the matter of forest culture is encouraged and promoted on the part of the Government, as well as the provincial authorities, by the establishment of nurseries, where plants and young trees are to be had at very moderate prices.

By a legal preservation of forests in the vicinities of towns pleasant walks are created for the pleasure and health of the inhabitants, without regard to the material profit of those places. At a short distance from the old city of Hanover, for instance, was the so-called Eilenreide, a forest of about 1,500 acres, which the city now partly encircles. This forest has essentially contributed to the reputation of Hanover, with regard to sanitary condition, to the extent of its being now, according to statistics, one of the healthiest cities in Germany. Several smaller towns which own extensive forest grounds and manage them in a rational way, clear by the net yielding of those woods the whole of their municipal expenses; as, for instance, the town of Munder, situated at the foot of the Deister Mountains. The town of Goslar derives an income of \$25,000 to \$30,000 from an extent of 7,500 acres of forest grounds. Every traveller on an excursion to Goslar and other parts of the Hartz Mountains will have admired the fine, practical forest roads which facilitate the transport of wood. It has been estimated that, by the higher prices which the town receives at the sale of the wood on account of the easier transport, the capital invested in making these roads and keeping them in good condition yields 20 per cent yearly.

## SUCCESSFUL BRAIN GRAFTING.

A PAPER on the above subject, by W. Gilman Thompson, M.D., appeared in the *New York Medical Journal* for June 28, 1890. Attempts have been made to graft nearly all the different tissues of the body. Skin, bone, teeth, muscle, nerves, glands, eyes, mucous membrane, etc., have all been grafted with more or less success, but successful brain grafting has not heretofore been performed. With the exception of skin grafting, and possibly mucous-membrane grafting, the results of such experiments have been of little practical value. They are, however, of great scientific interest in demonstrating the relative vitality of different tissues and the histological changes which accompany degenera-