

THE ATTEMPTS TO REAR SILK-WORMS IN ENGLAND.

THE weavers of silk dresses are but little aware of the numerous and varied attempts which have been made to produce silk in the British Islands, nor of the causes which have led to the failure of such attempts. For centuries there have been ingenious persons who have directed their attention to this subject; and down to our own day the hope of ultimate success has not been abandoned.

It need perhaps hardly be observed, that silk is the produce of a small worm which flourishes in the warm climates of Asia and of Italy; and that mulberry-leaves furnish the kind of food on which the worms subsist.

China has a soil and a climate which tend greatly to the growth of this kind of tree, and to this circumstance has been attributed the great success of the Chinese silk-culture in that country. The steps by which the knowledge of silk, as a material for clothing, reached the countries of Europe, we shall not here trace; but shall at once state that the rearing of silk-worms was first carried on in Italy about six hundred years ago. In the year 1327 the authorities of Modena drew a revenue from this source by the following extraordinary law:—That the proprietor of every enclosure should plant at least three mulberry-trees; and that all the cocoons or silk-worm pods produced should be publicly sold in the market, the buyer and seller paying each a tax to the revenue. From Modena the rearing of silk-worms spread to other parts of Italy.

By degrees other countries were made the scene of attempts to naturalise this little worm. Louis XI. caused the establishment of plantations for this purpose; and by the time of Henri IV. the mulberry-tree and the silk-worm were located in Lyonnais, Dauphiné, Provence, and Languedoc. The last-named monarch extended the same system to the neighbourhood of Orleans, gave honours and dignities to the successful cultivators, and even directed his own attention to the rearing of silk-worms, at the Tuileries and Fontainebleau. It was found, however, subsequently, that none of the attempts to rear the worms in the northern parts of France were permanently successful; the quantity or the quality of the silk produced (or both) being insufficient to render the attempt profitable. For the last century the only parts of France where the rearing has been carried on, on any considerable scale, are the sunny regions of the provinces bordering on the Mediterranean. To induce the peasantry of these provinces to direct their attention to this subject, Colbert, the minister of Louis XIV., established nurseries for mulberry-trees, and presented the young trees to any peasant or farmer who wished to rear silk-worms; he also gave a reward of three livres to the cultivator, for every tree that should be found in a flourishing condition three years after it had been planted.

The success which attended the establishment of mulberry plantations in the south of France induced James I. to hope that a similar advantage might be available for England. After saying that "in a few years' space our brother the French king hath, since his coming to that crown, both begun and brought to perfection the making of silk in his country, whereby he has won to himself honour and to his subjects a marvellous increase of wealth," James promulgated his opinion that "from the experience of many private persons who had bred silk-worms for their pleasure, nothing had appeared to cause a doubt that these may be nourished and reared in England, provided there were a sufficient number of mulberry-trees to supply them with food." We find that James took some singular steps for the attainment of the object which he had in view. He sent circular letters to all the counties of England, strongly recommending the inhabitants to plant mulberry-trees. "He directed the persons to whom these letters were addressed to take the opportunity of the holding of the quarter-sessions, or of any other public meeting, to persuade and require those who were able to buy and distribute in the counties the number of ten thousand mulberry-plants, which were to be procured in London at the rate of three farthings per plant. Although at first the public feeling was averse to the novel undertaking, yet the continuance of the royal sanction and support, and a consideration of the advantages reaped by other European nations from this source, at length engendered a growing interest for the subject. It may also be collected

from some of King James's speeches in the year 1620, that the people of England in general testified much interest on this subject."*

By the time of Charles I., however, the cultivation of the mulberry and the rearing of silk-worms appear to have been almost given up; but still mention is made of a grant made in the year 1629, to Mr. Walter Aston, of the custody of the garden, mulberry-trees, and silk-worms "near St. James's, in the county of Middlesex." Evelyn, in his 'Diary,' speaks of the Mulberry-garden, which occupied the spot where Buckingham Palace now stands; and a recent writer makes the following observations on the matter:—"How soon after this the silk-worms disappeared, and the gardens were opened to the gay world in the manner indicated by the quotation from Evelyn, does not appear. He does not speak of the opening of the Mulberry-gardens as any thing new. A passage in Pepys's 'Diary,' not long after the Restoration, mentions a visits to these gardens, but speaks rather disparagingly of their attractions. Buckingham House, which stood where the central part of the Palace now stands, was erected by John, duke of Buckingham, in 1703, and the Mulberry-garden attached to the house as private property. Previously Arlington House, and a building to which the name of Tart Hall is given in some old plans, occupied the same site. These buildings seem to indicate the period at which the Mulberry-gardens ceased to be a place of public resort."†

In 1718 a patent was granted to Mr. John Appleton for rearing silk in England. He established a joint-stock company, whose shares were sold at five pounds each; obtained a deed of trust, which he enrolled in the Court of Chancery; and caused directors to be chosen for carrying out the objects of the company. The company then took a lease for one hundred and twenty-two years of a plot of ground near Chelsea, and immediately planted two thousand mulberry-trees. A Mr. Barham, who was a shareholder in the company, wrote an essay to prove that the "glorious undertaking," as he termed it, was sure to be a mine of wealth to the proprietors; but the whole affair seems to have fallen to the ground a year or two afterwards, along with other commercial speculations of the same period.

In the period of more than a century which elapsed from 1718 to 1825, repeated attempts were made to bring this branch of industry to a profitable issue in England; aided frequently by the encouragement and premiums of the Society of Arts. But the great test of success—commercial profit—was in all these cases wanting. In the last-mentioned year, when companies were formed as plentifully as in 1718, a "British, Irish, and Colonial Silk Company" was formed, not, however, wholly from a wild spirit of speculation, but from a benevolent desire, on the part of some of its supporters, to ameliorate the condition of the Irish peasantry, by adding to their profitable sources of industry. Eighty acres of ground were purchased in the county of Cork, in which were planted four hundred thousand white mulberry-trees. Buildings were erected for carrying on the whole routine of operations connected with the production of silk, and the whole placed under judicious arrangement. The same company also purchased a piece of ground near Slough, and planted it with eighty thousand mulberry-trees. Both these attempts proved unsuccessful, and were subsequently given up.

One of the circumstances which have led to the uniform failure of these attempts is a curious one. In order that the silk-worms may have their food ready at the pro-

* Porter, 'Treatise on the Silk Manufacture.'

† 'London,' vol. i., p. 192: 'The Parks.'

per time, it is necessary that the mulberry-trees should come into leaf at the time when the living insects are hatched. This is comparatively easy in a warm climate; but in England it is attended with many difficulties. Hence search has been made for some other kind of leafy food which should at the same time be abundantly supplied and nutritious to the animal. Dr. Bettardi found that dried mulberry-leaves, preserved from the preceding year, would serve in case of exigency. The Rev. Mr. Swayne made some experiments, in which he fed one parcel of worms on black mulberry-leaves, another on white, and a third on lettuce-leaves; but the result showed that none of the worms yielded such a quantity of silk as is customarily obtained in Italy, and that those which had been fed on lettuce-leaves yielded decidedly less than the others.

The 'Transactions' of the Society of Arts afford abundant proofs of the laudable efforts which have been made to naturalize these insects in England; laudable, because if it could be made a profitable employment for country persons, much good might result therefrom. Yet all these efforts have failed. Miss Rhodes, Mrs. Williams, Mrs. Allen, Mademoiselle Coge, and other ladies both of England and France, have communicated the results of their experiments on this point. Some fed the silk-worms on lettuce-leaves only; others began with lettuce-leaves, and afterwards gave the little insects a portion of their favourite food; some had warm buildings constructed on purpose for the reception of the silk-worms; others devoted unremitting personal attention to their little charge. All produced results sufficient to give a degree of pleasurable interest to the matter; but none attained that point where commercial advantages would commence.

About fifteen years ago the Society of Arts presented a large silver medal to a lady for a specimen of silk produced in England. The worms, in this case, were fed on the common cabbage-lettuce till the last time of changing their skin, when they were put on mulberry-leaves until the time of spinning. The silk was submitted to a London manufacturer, who found some of it equal to the finest Fossombrone silk, and worth a guinea per pound; while other portions were equal to the usual qualities of silk produced in Naples, Bergamo, and Milan.

The most recent and most interesting experiments which we have met with on this subject are those of Mr. Felkin, of Nottingham, communicated to the British Association at Birmingham, in 1839. Some yellow and pure white cocoons, or silk-balls, were exhibited in an undisturbed state (although the chrysalides had been killed) upon the twigs where they had been spun by the silk-worms; the French and Italian mode of management having been as far as possible adopted throughout the entire course of the experiments. The worms had been separated into two parcels, the one being fed partly on lettuce-leaves and partly on mulberry-leaves; the other wholly on the latter. Of the former seven-eighths died without producing silk; of the latter, only one-third. The result showed that if the proper species of insect be selected, if mulberry-leaves be supplied in sufficient quantity, and if care and cleanliness be observed in all the operations, silk may be produced in England in quantity and quality not much inferior to that of Italy. But the opinion now generally entertained is, that the value of land and of labour in this country, compared with that of Italy, is so great as to render it improbable that any great commercial advantages are likely to result from the prosecution of the silk-culture in England.