# A GALLANT SILKEN TRADE.

*By Alice Morse Earle.*

WHEN America was colonized, England was in the midst of many agricultural and commercial experiments. Among them one of the most hopeless, and the most extolled, was an effort to raise silk, in order that silk weaving (itself a new industry in England) might be supplied with home material which had not paid tribute to Italy or France. The king became interested financially in silk raising. Therefore the culture of silk was strongly urged upon the Virginia colony, where natural conditions seemed so promising. A poet of the day expressed the universal belief:

"Where wormes and food doe naturally abound,
A gallant Silken Trade must there be found."

The king wrote earnestly upon the subject, endeavoring as much to discourage tobacco growing in the colony as to encourage silk, adding to his "Counterblast" against tobacco an offer of an equally alluring staple as a substitute. Thus influenced and commanded did this settlement, without shelter and on the verge of starvation, this community that had to be clothed and fed from England (so far away in those days), set serenely to work on a fascinating but very uncertain experiment for the production, not of a necessity, but of a luxury. Before Jamestown was a decade old it had sent silk to England; and who can tell what that silk had cost the colony? In 1620 laws had been passed to compel the planting of mulberry trees, and skilled Frenchmen were sent over to teach silk raising to the settlers; but their instruction was peremptorily ended by a fierce Indian revolt, and silkworms lived and spun and died, and mulberry trees grew unheeded for two score years.

There is a tradition, dear to the heart of Virginians, that Charles I was crowned in 1625 in a robe woven of Virginia silk. This may not be true; but his son, Charles II, certainly could have been thus attired, for there still exists in the college library at Williamsburg, Virginia, a letter signed Charles R., written in 1668 by his most Gracious Majesty's private secretary and sent to Governor Berkeley for all loyal subjects in the colony, which reads thus:

"Trusty and Well-Beloved. We Greet you Well. Wee have received wth much

content ye dutifull respects of Our Colony in ye present lately conveyed us by you and ye Councill there, of ye first product of ye new Manufacture of Silke which as a marke of Our Princely acceptation of yor duteys and for yor particular encouragement, etc., Wee have been commanded to be wrought up for ye use of Our Owne Person."

By this time it might well be said, from all that silk experimenting had cost the colony, that no one but a king could afford to wear Virginia silk. The coronation robe of Charles I had been followed fourteen years later by another silken gift; but again an Indian massacre reduced the enthusiasm of the silk growers. In 1655 there came a fresh enthusiasm. Edward Digges was governor under the Commonwealth; and when he announced that he had produced four hundred pounds of silk in Virginia during his first year of office, a silk fever broke out that far exceeded in violence any previous attack. Digges sent to Turkey for Armenians as instructors in the work, and was loudly praised for his public spirit.

"But noble Diggs carries the Bell away,
(Alas! want of eggs made so small the essay),
His two Armenians from Turkey sent
Are now most busy on his brave attempt.
And had he stock sufficient for next year.
Ten thousand pound of Silk would then appear,
And to the skies his worthy deeds uprear."

George, the Armenian, was paid four thousand pounds of tobacco a year to induce him to stay, and was given a thousand pounds more when he actually had raised ten pounds of silk. Sentimentality ran rife over silk culture. No expressions were too extravagant to apply to it. It was called "a reall-royall-solid-rich-staple commodity;" "the rich golden fleece of Worms;" "the Wondour of the world, the glory of the Creatour and the Exaltation of Virginia;" "a stately pretious treasure;" "a noble and gainfull trade." The silkworm was called "a glorious incomparable creature;" "the wonderfull admirable Worm;" "a curious stout robustious creature;" "a noble mystery of Nature;" "a profitable industrious inriching untaught artist;" "all the Volumes of Nature's miracles in a little exact epitome." Pamphlets were written on the noble mystery of silkworms, "in that Mignon of Profit and Glory, the Universally advantageous Virginia."

The sentimentality is shown to a full extent in that curious tract entitled "The Reformed Virginian Silk-Worm." This was avowedly the account of a rare and new discovery by a young lady in England of a "speedie way and easie means" to raise silkworms, also bearing good wishes and hopes of the encouragement of the Virginian Indians in silk culture, and their incidental conversion to Christianity. This rare discovery was nothing more extraordinary than to let the worms loose upon the trees to feed. There were many wild projects also for raising silk from native Virginian caterpillars. It was ordered by law that landowners plant one mulberry tree to every acre of land, and rewards for silk were offered. Silkworm eggs were sent free from England, along with wild advice. It was held that a man and a boy, "if their hands be not sleeping in their pockets," could feed the worms from six ounces of seed till within fourteen days of spinning; then three or four more "helps—women and children being as proper as men," to feed, cleanse, dry, air and perfume them. It is one of the curious items of all the instructions for silkworm raising of that day that their quarters had always to be perfumed with some sweet-scented herbs, such as bunches of rosemary or stalks of lavender, being "always mindfull to store their rooms with herbs and flowers delightfull to the smell." In cool weather a pan of hot coals burning benjamin or some sweet gum must be in the room; and no one smelling of onions, garlic or strong scent could go near them lest

the worms die; this was proved in more modern experiments. Tobacco smoke was also fatal. It was also asserted that the worms were very sensitive to rough sounds, were easily frightened; that they sickened and died if handled roughly. There always had to be fresh air in their chambers (the Chinese fan them), and scrupulous cleanliness; and dirt and dampness would kill them. Even the mulberry leaves, their preferred food, had to be dried of all dew, nor could there be dust on the leaves. The leaves had to be gathered freshly twice a day, and on rainy days the work was great: the air had to be carefully dried in their apartments, but there must be no smoke. They went through four "sicknesses" or skin-sheddings, in each of which they were apt to die, for they ate so greedily and grew so rapidly that their skins would not stretch fast enough for their growth; when a silkworm was but four days old he had grown too big for his skin.

One John Ferrar, moved by the greatness of the theme, burst forth in verse of several pages, which forms part of "The Reformed Virginian Silk-Worm:"

"In March they first begin to live and feed,
In Aprill they have done the silken deed.
And ten months' time they leave you with great ease,
To spend it in what profit you shall please.
Rare worms who feeding five and forty daies
On leaves of sundry shrubs and plants repaies
Their keepers with fine Silk that wants no Strength,
And yet extends itself some miles in Length.
And for the Labour of a Man and Boy
They gaine you Sixty pounds which is no Toy.

"And for all Tooles that appertain thereto
A Twelve-penny Reel is all it will cost you;
No wit, no strength, no purse, no stock will need,
But eyes and hands, the worms to guard and feed.
Five hundred pounds' worth of rich Silk, all know
Freights less than ten Pounds poor Tobacco.
Silks are no toy, no trash, no Pedlar's ware,
Staple, good, and ready chink everywhere."

It is nearly two centuries and a half since this "Reformed Virginian Silk-Worm" was written, with confidence and enthusiasm and promise; but silk culture in America is just as tentative now as then, and specimens of American raw silk are as much of a rarity. It should be noted, however, that silk manufacture has been as marked a success in the United States in this century as silk culture has been a failure.

In 1679 the king sent a band of Huguenot refugees to South Carolina to raise oil, wine and silk. They had a store of silkworm eggs on board; but the worms arrived before the ship did and, having no mulberry groves in mid-ocean to gorge upon, promptly perished.

In 1703, the governor, Sir Nathaniel Johnson, again tried to encourage silk raising, calling his own country place by the pretty and significant name of Silk-Hope, while the beautiful home of the Broughtons was called Mulberry. Oldmixon in his "History of Carolina" (1708), says:

"Silk is come to a great importance here, some families making 40 or 50 pound a year and their plantation work not neglected, their little Negro children being serviceable in feeding the worms. Sir Nathaniel Johnson makes yearly £400 in silk only."

The Trustees of Georgia started out with most extravagant hopes for silk. At the lowest estimate, twenty thousand persons were to be employed in that province in the culture, as many more in England in the manufacture; thus at least £500,000 would be saved to England. A Piedmontese named Amatis came before the Board with glowing proposals, and he was at once engaged for the first

Georgia emigration in 1733, with a servant named Camuse, the latter's wife, and their three sons. Amatis was to have free passage to Georgia for them all, a hundred acres of land, materials for his work, all the profits for five years, provisions for his party for a year, a salary of twenty-five pounds a year for five years, and free return for the party to England or Italy if they so desired at the end of the term of five years. This was perhaps the very best contract under which any emigrant has ever come to America. It was too good. Dissatisfaction at once was the result. Treachery was shown by some one, presumably by Amatis; the eggs were destroyed, the machinery broken, the trees killed, and Mr. Amatis vanished. The courageous Trustees turned to Camuse and his wife, who on salaries of £60 per annum the first year, £100 the next four years, and the free use of a house and garden, had a very comfortable berth. In 1734 General Oglethorpe carried back to England eight pounds of Georgia silk; and a small trunkful soon followed. Some malcontents in a complaining book asserted that all this silk was made in Carolina. In 1735 the *Gentleman's Magazine* gives an account of an interesting interview of the Trustees with Queen Caroline to show her the vaunted Georgia silk. She chose a pattern for weaving, and a complete court dress was made of it, which she wore at the king's birthday. Oglethorpe went back to Georgia with renewed enthusiasm, and succeeded in awakening the interest of the Salzburg emigrants. But when the handy German women began to be expert at silk weaving, Mrs. Camuse began to be jealous, and would not rightly teach them. They turned elsewhere for instruction, and soon the Camuses wandered off to Carolina. They had to return, however, to Savannah and go to work at three shillings a day in a filature which had been erected. "Monstrous wage," says Secretary Habersham; small it must have seemed to the Camuses after their original coddling and spoiling.

When the Trustees of Georgia gave up their charter, they had spent fifteen hundred pounds on silk raising, and had not produced a thousand pounds of raw silk. Thus perished their silk hopes. By the year 1750 nearly all the Georgia and South Carolina settlers had abandoned the experiment of silk raising, except the industrious Salzburgers. Until just before the Civil War the descendants of these Salzburgers continued to raise silk, which they made into fishing-lines for sale in neighboring cities.

Mrs. Eliza Lucas Pinckney, that extraordinarily intelligent woman, whose life was a constant benefit to her family, friends and neighbors, and indeed to the whole country, not only introduced the cultivation of indigo into South Carolina, but she persisted and succeeded in the raising of silk. She intended the occupation chiefly for those in her household who could do no other work, such as the very old and very young negroes; though she and her maids reeled the silk. When she went to England, in 1753, she carried with her enough raw silk for three dresses which were woven and made of it. One of these she presented to the Dowager Princess of Wales, mother of George III; one to Lord Chesterfield, who had befriended the colonies; the third, a lustrous gold colored brocade, she wore herself, and it is still owned by her granddaughter in the fourth degree.

The Middle States had a touch of the silk fever. The Swedes who settled on the Delaware were confidently instructed to raise silk; and William Penn talked a good deal about mulberry trees, and turned to silk culture as a method pointed out by Providence for "employing the Mean and Weak as well as others of both sexes." Benjamin Franklin seemed to have a finger in every project, and

a word of inquiry and assistance for it, whether it were in literature, science or art, in agriculture, mechanics or domestic economy. Naturally silk raising interested him, and, encouraged by the American Philosophical Society, a hundred silk throwsters were dispatched from England, a filature was started up, public gifts were asked, and prizes offered. From the silk of the prize-winner, Mrs. Susannah Wright, a court dress was made for Queen Charlotte, and she promised to wear it on the king's birthday. Franklin was in England, and presented the robe to the queen; and he took charge of cocoons, silk, etc., sent from America to be sold. We find his wife sending her share of reeled silk to him to sell. Franklin in turn writes to her:

"The Silk Committee were so good as to make me a present of four pounds of raw silk. I have had it worked up, with some addition of the same kind of silk, into a French gray ducape, which is a fashionable color, either for old or young woman; I therefore send it as a present to you and Sally, understanding that there is enough to make each of you a negligée. If you should rather incline to sell it, it is valued here at six shillings sixpence a yard, but I hope you will wear it."

Grace Fisher, a Quaker woman preacher, made a considerable quantity of various silk stuffs of some of which a gown was presented to the historian, Mrs. Catherine Macaulay, by Governor Dickinson, and there was a silken suit for Washington. The mother of Francis Hopkinson and many other Philadelphia dames had American silk gowns, some of which are still cherished as heirlooms. The War of the Revolution closed the filature, and ended that episode of silk culture. From 1827 till 1840 there was in Pennsylvania a feverish revival of interest and sinking of capital in silk raising.

In 1876, the Centennial year, the Woman's Silk Culture Association was formed in Philadelphia, and for some years it prospered. During the recent Pan-American Congress a beautiful set of flags of American silk was presented by it to the delegates, and it had an interesting exhibit at Chicago. About two years ago the society became inoperative.

The story of silk culture in Connecticut began about 1732; and in 1747 Governor Law had the first coat and stockings made of New England silk, and his daughter the first gown. From about the year 1760 it continued steadily in the town of Mansfield, even through the Revolution, until the middle of this century; but until about 1812 this silk was made wholly into sewing silk, which was woven into coach lace and tassels.

The most prominent early adherents of silkworm culture in New England were Dr. Jared Eliot, who indorsed it in a volume called "Essays upon Field Husbandry in New England," Nathan Aspinwall of Mansfield, and President Stiles of Yale College, who experimented on it forty years. A bulky manuscript journal of his experiments is now in Yale College, and may be seen by the curious. He had one tangible result of his years of trials—a gown of Connecticut silk, which he wore at the Yale Commencement in 1789. Another splendid result of the failure of silk culture in Connecticut, as attempted by the Cheney Brothers, has been the establishment of their successful silk manufacture.

There is always a sense of nearness of real knowledge of a process gained by hearing the words of one who has actually done what is being described; so I give an account of silk raising and making into sewing silk as written out for me by an old lady, now eighty years old, who made sewing silk in Mansfield, Connecticut, when she was a girl:

"The worms hatch out of very small eggs that the millers lay on paper; they are then put in a very cold place and kept until spring. When the mulberry trees commence to leave out, the silkworm eggs are brought out in the case they have been

kept in and placed in the living room. In a few days the eggs will begin to turn dark; they are then going to hatch. Soon the worm is about one-fourth of an inch long. They feed upon very tender leaves, and as soon as they crawl on the leaves they are moved on to clean paper, and then moved so every day until they are all hatched out. They shed their skin four times; after they shed the last time, they grow very large, very fast, till they are nearly four inches long. They are then put on shelves made for them, and small bushes put up for them to wind their cocoons on. After they have done winding the balls are picked off the bushes; there is a loose silk on them which is called tow; that must be all picked off. They are then put in hot water. Then take a brush and take up the end of the silk and reel it off. The reel is two yards around. When the silk is dry, it is stiff and gummy, so it has to be put in hot water and soaked some time; it is then spun and reeled into skeins; twenty threads round the reel make a skein of silk. It is then boiled in soapsuds, and then dried for market. Girls picked most of the leaves; it was very hard work and very small pay; they had ten cents a bushel for picking. Some could pick three bushels in a day; the people exchanged the silk for goods at stores the same as we do money at the present time."

Silk culture in all its steps was essentially woman's work—was intended and introduced as such. In all the examples of extraordinary success and profit alluringly recounted in the silk manuals, you will find that the work was all done by women and children. It was not heavy work nor hard work, and required much daintiness of touch and delicacy of care. The worms are repulsive to most women; still they crawl but little, so they would never get on one's dress or person, disliking to move as much as the average woman would dislike to have them move. It was, too, a natural work for women, being perfectly in line with their domestic spinning of wool and flax. In the pamphlet issued in 1609, called "Nova Britannia offering most excellent fruits by planting in Virginia," the writer says:

"There are Silkewormes and plenty of mulberie trees whereby ladies, gentle-women and little children (being set in the way to do it) may bee all imploied with pleasure."

Its success was attributed to women's work, and its failure also. The president of the colony wrote to Secretary Martyn in 1746:

"The fundamental cause of its stagnation is the unaccountable backwardness of some of our dames and damsels to employ themselves in attending to the worms during the time of feeding, which I have frequently taken notice of and it cannot be imputed to want of leaves."

Prizes were offered to allure women to the work. In 1749 the Trustees gave £2 to every woman who acquired the art of winding silk. The next year a reeling machine was given to each silk spinner, two teachers each received £5 for instructing fourteen young girls, who for their attention and industry were each given a pound.

In succeeding years, in many states, women turned eagerly to silk raising to help out their scant savings in egg and knitting money. One neighbor gave the other a few silkworm eggs: a barn loft, an empty L bedroom, an old outbuilding, was utilized as a cocoonery; a few boards and some mosquito netting finished the outfit. As the worms thrive best when not crowded, and as it is easy to tend a few carefully and constantly, these small essays were generally successful. The cocoons were usually sold without any attempt at reeling the silk. In Connecticut especially, such ventures were constant and profitable. —not as steady employment but as an industrial amusement.

Thus it may be seen that there have been since the early ones, many waves of silk culture, which have swept over this country, leaving, alas! only wasted time, disappointed hopes and stranded fortunes in their wake. There still stands in Narragansett a large cocoonery built over sixty years ago, and stocked by the investment of the slow and difficult savings of

many years of one of the ill paid judges of the Supreme Court of Rhode Island. It was built—as were many others—for the employment of the leisure time of the women of the household; and the judge's daughters still recall that disheartening summer, when the silkworms had hatched with brilliant promise in astonishing numbers, had grown and shed their skins like magic, and were at last about to spin their cocoons and therefore must be constantly fed; and all the mulberry leaves of their newly planted *Morus multicaulis* and of the wild mulberry trees for miles around were exhausted; and the judge's sons drove ten miles in one direction by night, and the judge's daughters in another direction by day, trying to gather fresh supplies of mulberry, linden or lettuce; while every minute by night and day the unceasing sound of the champing of the strong jaws of the greedy worms could be heard like the champing of horses; till at last the tyrants suddenly ceased eating and, half nourished, spun their cocoons but half formed, and the whole venture was a bitter loss.

This was but one overwhelming failure of many,—the disappointment and ruin of New England clergymen, lawyers, doctors and farmers by the hundreds. A trail of books of that year's date has been left by the silkworm enthusiasts and speculators, and pamphlets on mulberry planting, on silkworm rearing, on cocoon preparing, on silk reeling, on silk weaving; newspapers also, called *The Silk Worm, The Silk Manual, The Silk Culturist*;—all of which by their confident promises and expanded statements of profit recall vividly "The Reformed Virginian Silk-Worm," and must at their appearance have but ill prepared thrifty New Englanders for their sudden and annihilating losses. In every town and village the bright light of speculation and profit had shone; in every town was the accompanying and gloomy shadow of failure.

This special silk craze was so disastrous that silk culture in this country has never recovered from the blow. It was as overwhelming and universal as the tulip craze in Holland. Peter Daponciau, who came to this country with Baron Steuben, introduced the subject to Congress; it was eagerly grasped; and state legislatures followed offering bounties and ordering manuals, especially in the Commonwealth of Massachusetts and in Connecticut.

The speculation was far greater, however, in mulberry trees than in silk. Fancy names were given to the old varieties, each of which was urged upon the public as the best and sold at fancy prices. *Morus multicaulis*, or Chinese mulberry, took the lead among the new experiments. Trees of a year's growth, that could be raised for one or two cents, soon sold for one or two dollars. Cuttings were sprouted in cucumber frames and in hothouses, to supply the astounding demand. Small trees two feet in length sold for five hundred dollars a hundred. Thousands were imported from France and, like the Holland tulips in the days of that speculation, were sold to be delivered in six months or a year. Confident estimates of profit were that one thousand dollars invested in trees in the spring of 1838 would bring fifty thousand dollars in the autumn of 1839. When the latter date arrived, the bubble had already burst; and the trees of the spring "were offered in vain to farmers for a dollar a hundred for pea-brush." The wreck of nursery-men throughout the country was almost universal; and New England farmers were only less injured because their speculation had been necessarily more limited. An old farmer said nearly forty years later: "We don't know many furrin tongues here in this town, but there's one Latin name we ain't a-goin' to forget; you can't say *Morus multicaulis* now in the store or in town meeting 'thout makin' every middle-aged man in the

room madder'n thunder thinkin' what a fool he was."

It is amusing as well as sad to read the arguments given in books of the day for the planting of mulberry trees. One might almost fancy the states were treeless. Silkworm feeding is only one of their many virtues and uses. They make the most dense shade trees; are the most ornamental trees in the world; the fruit is good for man, bird and beast; they provide the best ship timber; are most desirable firewood; and above all the mulberry groves offered good opportunities for retirement, study and meditation.

The mulberry grew rapidly enough to feed anything but a silkworm, and was preferably kept low, like a hedge, so that children could pick the leaves. Whole acres were planted in upper Narragansett, twenty thousand trees by single companies. Stock companies and business firms were formed often with a hundred thousand dollars capital, some for mulberry raising, some for silk culture. All vanished in a few years.

The plausible manuals of the times give much truly useful information, and some that seems to-day fatuous to a degree. The oft reiterated assertion that a child ten years of age could easily gather seventy-five pounds of mulberry leaves a day must have read like keen satire to the distracted Narragansetters, who could not find a pound to gather and in despair were feeding their incubi with elm or oak or any leaves at hand. An indelible stamp of the silk craze, too, is left on the fields and woods of New England in the occasional growth still seen of the *Morus multicaulis.* I saw them growing in Wethersfield, Connecticut, and in Bolton, Massachusetts, two summers ago. I doubt not the latter were planted by Solomon Wilder, the wealthy and enthusiastic tree lover, patriot and silk experimenter, at his home, which is still as beautiful as any in New England.

One statement of all these manuals and guides, that of the fitness for silk culture of our climate and land, is certainly true. We can raise plentiful silk and good silk. The successive abandonments of the industry have come from another cause. We could not and we will not compete with the ill-paid Chinese and Italian workmen; we will not make silk as cheaply as they do. In colonial days the silk workers were bolstered up by constant premiums and prizes and experimental wages. When these prizes were finally given up, and the wages settled down to a true basis, earnings of a shilling a day did not satisfy American workmen. Father Bolzius of the Salzburgers early discovered this, and said that his people were not willing to work at silk raising for a shilling a day when they could earn two shillings a day at other work. Until America is as closely settled as China, and we are content and can live with Oriental wages, silk culture will not be a national industry. But it is still, as it was a century ago, a pretty and profitable industrial amusement for farmers' wives and daughters.