

THE HISTORY OF SERICULTURE IN UTAH

by

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THE HISTORY OF SERICULTURE IN UTAH

INTRODUCTION

The Utah pioneers were members of the Church of Jesus Christ of Latter-Day-Saints who migrated to Utah because of religious persecution. Joseph Smith Jr. founded the church in New York state April 6, 1830, and it was he who translated and published the Book of Mormon which gave the members the nickname "Mormon".

The missionary work, begun soon after the church was organized, resulted in such a rapid growth of the church that it excited considerable concern among those who opposed it's doctrines, especially in Kirtland, Ohio, and Independence, Missouri. Hundreds of converts from foreign countries, especially England and Scotland, began to migrate to this country and it soon became necessary to find a gathering place where members of the church might live peacefully.

Nauvoo, Illinois, was founded in 1840, by the Mormon people and soon became a thriving city of 20,000 inhabitants and the central gathering place of the church members. But as the power of the church began to be felt in Illinois, opposition became violent once more. Mobs began to persecute the Latter Day Saints and Joseph Smith was among those who were killed. After his martyrdom on June 27, 1844, life became intolerable for the Mormon people and finally resulted in the beginning of the Utah migration in 1847.

One of the most difficult problems confronting the Mormon pioneers in early days in Utah Territory or the Territory of Deseret as the Mormons preferred to call it was the need for funds with which to purchase vitally needed machinery, tools, and equipment from the markets in the East. They had not been in the Territory long before they realized

that paying out their money and wares for goods made in other parts of the country and transported across the plains by wagon was draining them of gold and currency. Trade among themselves was almost entirely without the use of United States currency. Wherever money was concerned, most careful consideration was given that it be spent where it would profit most.

Obedient to the direction of their leaders, the majority of the Latter Day Saints had brought with them as many of the items necessary for their well being as it was possible for them to obtain. But the fact that many of them had been driven from lovely homes and prosperous farms or business by angry mobs bent upon the destruction of the hated Mormons complicated the problem of supplying their needs. Many of the people who had been well-to-do, particularly in and around Nauvoo, Illinois, found themselves actually wanting the necessities of life to begin the long trek westward. Few outsiders had been willing to purchase their property when it could be had for the taking. Those Latter Day Saints who were able to dispose of their possessions did so at a great sacrifice. Emigrants who came to Utah from foreign countries often spent their all in getting to "Zion". And thus the problems of supplying the temporal needs of the people of Deseret became tremendous.

Arid climate, late frosts, hard winters, cricket invasions, lack of sufficient tools and machinery, Indian troubles, and other discouraging conditions the pioneers met in their mountain retreat added further difficulty. But the courageous people and their wise leaders were not easily discouraged. As often as was necessary, they increased their efforts to meet the problems that arose. "Produce what you consume" was the advice of the leaders. Typical of their attitude is the

following quotation from Brigham Young's address to the legislature (as Governor of the Territory of Deseret) in January 1852:

Deplorable indeed must be the situation of that people whose sons are not trained in the practice of every useful avocation and whose daughters mingle not in the hive of industry. . . Produce what you consume; draw from the native elements the necessities of life; permit no vitiated taste to lead you to indulge of expensive luxuries, which can only be obtained by involving yourselves in debt. Let home industry produce every article of home consumption. (12:1852)

The civic leaders of those early years in Utah were the religious leaders as well. Brigham Young, as presiding officer of the Church of Jesus Christ of Latter Day Saints, directed and led the migration to Utah, and by unanimous approval of the people, became Governor of the Territory of Deseret as well.

Awareness of the need for struggle to survive in their new home, and confidence in able leaders, rendered the church membership willing to assume the varied and difficult responsibilities assigned to them. In consequence, many infant industries were already producing some of the things that were needed by the people when Governor Young addressed the governing body as quoted above. The first company of pioneers (147 in number) had entered Great Salt Lake Valley four and one-half years earlier, on July 24, 1847.* Other companies continued to arrive so that there were about thirty thousand inhabitants in Utah by January 1852. (15:45) As the population increased, so did the needs for many things that could not be purchased nearer than twelve hundred miles away.

One of the early and critical needs in the Territory was for textiles. Every scrap of cloth was prized and used most thoughtfully.

* By October, 1847, there were 2,095 pioneers in Great Salt Lake Valley.

Housewives carefully mended and patched and no article of clothing was permitted to go unused and uncared for. The first effort to produce textiles was in the homes. Some wool and a few sheep were brought in with the first companies. The women set to work with hand carders, spinning wheels, and hand looms to turn the precious wool into badly needed homespun. By 1852, the machinery for a woolen mill had been imported from France and had been set up to aid in producing woolen textiles. Also, a few cotton seeds planted in 1852 successfully matured. Cotton growing then became a mission for some of the church members who were directed by their leaders to take up this specific work:

Groups of pioneer families were outfitted and prepared for travel, and made the journey from Salt Lake City to Washington County in southern Utah, then a trip requiring many days of hard travel by team, for the mission of raising cotton. (27:Mar.18,1933)

Lack of experience and cold dry climate caused one heartbreaking failure after another. It was ten years before a crop was harvested successfully. Cotton has been grown successfully since that time. Flax was also planted and harvested but was never considered a very successful fiber crop and is now grown in Utah only for the seed.

Silk raising was a different situation than the other fibers. This was an industry in which the church leaders hoped to see many households participate rather than for a few to specialize in. It was hoped that women and children and those too old or weak to do other work could be gainfully employed in raising silk. It seemed possible that silk might be raised by the family to meet the family clothing needs. As an export crop, silk gave promise of profitable returns for those who probably needed it most.

FIRST ATTEMPTS AT SERICULTURE

Some of the pioneers had had experience raising silk before they came to Utah and had brought mulberry seeds with them; but although Brigham Young advised the people to raise silk, very few attempts were made in early years. Some seeds were planted and President Young imported some mulberry trees from France in 1855, but no evidence has been found to show that any silk was produced until 1856. At that time, Mrs. Elizabeth Whitaker experimented with some silkworm eggs brought by her husband from England. She is reputed to have raised the first cocoons in the valley. (21:43-45)

John Taylor, first councilor to President Brigham Young, delivered a discourse in the Tabernacle in Salt Lake City on January 17, 1858, in which he chastised the people for not following the advice given them:

Do any of the brethren who came here ten years ago last July remember that you were instructed that every facility that we could need was here in the elements? . . . that the gold, the silver, and the iron were in these mountains? . . . that the wool, the flax, the silk, the cotton and everything to sustain man were in the elements around us? 'What is silk here?' Yes in as great abundance as in any part of the earth; and the finest broadcloth is here, and everything to make life desirable is here. It is for the people to go to and develop the resources surrounding us. . . .

Import silk worms and mulberry trees and you will find that this is as good a country and climate in which to raise silk as any on the face of the earth. Do some understand this? Yes there are persons here from the Eastern States who have raised silk worms and manufacturers from the old country. Why, then, do we not have silk? Because no man takes steps to organize certain elements into silk. All this was told you in the beginning, and why did not men understand? (17:Jan.17,1858)

According to Milton R. Hunter, Mrs. Nancy Barrows brought mulberry seeds and worms from the East in 1858, and while she waited

for the mulberry trees to grow, she fed the worms on lettuce. In 1859 she reeled the silk and wove it into a dress, "it being the first one produced in Utah." (13:481) "In 1860 Mrs. Alexander C. Pyper raised cocoons and made a beautiful shawl which brought forth much praise," reported Levi Edgar Young. (38:196)

The Daughters of the Utah Pioneers of Cache County tell the story of Mr. and Mrs. Paul Cardon who moved to Logan in 1860:

They were quick to see the similarity of conditions in Cache Valley and their native northern Italy, and as they were both familiar with all the branches of silk culture they decided to try it here. Mr. Cardon sent to France for Mulberry seeds. These were planted and the trees grew well and were the first to be grown in northern Utah. When they were large enough to produce leaves, Mr. Cardon sent to France for eggs of the silk worm. These eggs were hatched by putting them in a bag and hanging them around their necks. These worms grew and others were raised and when the supply was sufficient they began to reel the silk. . . .(2:131)

Evidence of the first commercial effort in behalf of the silk industry in Utah appears in the Deseret News June 4, 1862, under the title line "Something New in Deseret." A direct quotation follows:

I wish to say to all those who have Mulberry trees (the moru-multicaulis) that I have succeeded in raising some fourteen hundred healthy silkworms, of a large kind. Whoever may wish to avail themselves of this opportunity of securing some of these useful insects can leave their orders at Henry E. Phelps', opposite the Telegraph Office, or at H.A. Squires', opposite Jennings Store, East Temple St., Great Salt Lake City. Thomas Whitaker. . .Centerville

In the next issue of the Deseret News one week later, June 11, 1862, appeared the following:

Silk!!!--A fine specimen of silk was presented to us a few days since, by Mr. Whitaker of Centerville, the production of his stock of silk worms, which are represented as doing well as any were ever known to in silk producing countries.

One Samuel Cornaby of Spanish Fork reported to the Deseret News successful use of Osage Orange leaves as silkworm fodder. The Utah

State Historical Quarterly records his letter of July 28, 1869, in which he says:

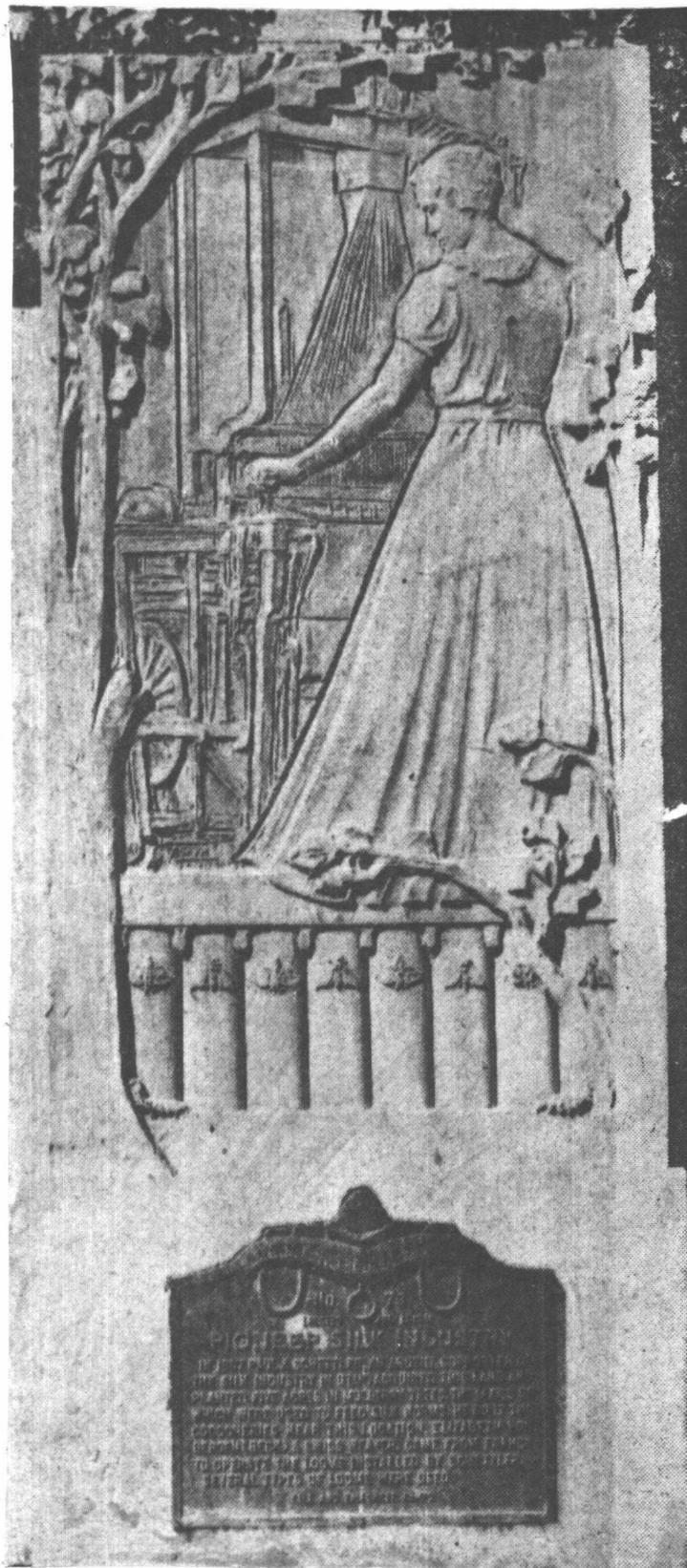
The eggs were brought from England by Bishop Thurber on his return from his mission in 1866. In 1867, the number of worms being small, they were fed on mulberry leaves; but the two past seasons they have been fed exclusively on Osage Orange leaves. The worms appear to be healthy. We have about five thousand this year and we have had none die up to the present time. (35:vol.5no.1)

The Deseret News reported that the cocoons of these worms were of large size and good color, and except that the fiber was perhaps not quite so fine, seemed fully equal to cocoons spun by worms fed on mulberry leaves.

There is an attractive plaque on a wall of the Yalecrest Ward Chapel in Salt Lake City honoring an early effort in sericulture. It bears this inscription:

In 1867 Paul A. Schettler, an ardent supporter of the silk industry in Utah, acquired this land and planted five acres in mulberry trees, the leaves of which were used to feed silk worms. He built two cocoonerics near this location. Elizabeth Von Bergen (Beck) a Swiss weaver, came from France to operate the looms installed by Schettler. Several types of looms were used.

According to the Utah Writers Project, Octavius Ursenbeck imported silk worms from France in 1868. But it is not known what immediate success he had in raising the worms. (11:116) Mrs. Ursenbeck had been a lace maker for queen Victoria. One of her proudest accomplishments had been making the lace for the wedding dress of one of the princesses. She was more anxious than most of the pioneer women to have silk with which she could work at her favorite occupation. (21:43)



Wall plaque at Yalecrest Ward Chapel in Salt Lake City marking the site of the Paul A. Schettler silk farm.

CHURCH PROMOTION OF SERICULTURE

The church leaders decided upon a program to promote sericulture in the Settlement and selected George D. Watt of Layton, Davis County, to lead the promotion. On Monday November 2, 1868, he addressed the editor of the Deseret News with this letter:

Dear Sirs: At a general assembly of the authorities of the Saints in the Old Tabernacle in Salt Lake City on the 31st, I was called and appointed to visit the wards and settlements of Utah, to lay before the people the capabilities of our country for and the advantages to be derived from the culture of the Mulberry trees, and the production of the silk worm, and also to organize cooperative bodies in every ward for the effectual introduction, and permanent establishment of this remunerative industry.

I delivered my first lecture in the 13th Ward Assembly Rooms last evening, 1st inst. to a large and appreciative audience. There were present Pres'ts George A. Smith and Daniel H. Wells. Pres't George A. Smith and Bishop E. D. Woolley earnestly responded in favor of at once preparing ourselves to carry out the wishes of Pres. B. Young relating to the subject of the lecture. The Bishop announced another meeting of the members of the ward for the purpose of again talking the matter over and organizing.

A few days following the meeting reported, President Brigham Young wrote a letter to President Albert Carrington of the British mission in which he clearly expressed his attitude toward sericulture in Utah:

Brother Geo. D. Watt is laboring with much zeal in the interests of the manufacturing of silk in this Territory. He is traveling in the Wards and settlements instructing the people upon the advantages to be derived from planting mulberry trees and feeding silk-worms in Utah, and demonstrating the great benefit it will be to the people in advantageously employing women, children and weakly persons, who cannot be profitably engaged at heavier work. Brothers Edward Rushton and Manley Barrows have been appointed to assist brother Watt in his labors.

As you know, I have for a long time endeavored to impress upon the Saints the advantages possessed by Utah for silk culture. Elder T. B. Stenhouse who has lately returned from California, informs me that, when in that state, he visited the cocooneries of M. Louis Prevost,

who has published extensively in relation to silk producing in California; and brother Stenhouse tells me that, from what he saw there, he feels confident that California is no nearer profitably manufacturing silk than is Utah; nor does he think the climate etc. of that state so good as they are in these valleys for the production of this valuable article of commerce. I have now completed my coconery at Forest Farm; it is 100 feet by 20 feet in the clear, and I expect to enter largely into the business the coming year. (16: Nov. 18, 1860)

The letter was dated November 18, 1868, the same date on which the Deseret News carried another announcement of a meeting held by George D. Watt in the 8th Ward of Salt Lake City. The 8th Ward Silk Producing Co-operative Society was formed during the meeting. John F. D. McAllister was chosen President, William Shires became Secretary, and Henry W. Lawrence, Treasurer. This meeting was evidently typical of the meetings that were held in the various wards and settlements of the church to encourage the people to raise silk.

The Female* Relief Society was organized in all the wards and branches of the church in 1867. The women were encouraged to participate in the program of silk raising. Eliza R. Snow who was chosen general president of the Female Relief Society addressed an article to the Deseret News in 1868, in which is recorded:

He [Brigham Young] urged upon them [the members of the Relief Society] the manufacture of articles made of straw, the cultivation of silk, and the establishment of fashions that would be becoming--such as would be worthy the patronage of sensible, refined, and intelligent women. . . .

In the speech Eliza R. Snow referred to, Brigham Young expressed his opinion that the dresses which swept the ground were unsanitary and that elaborate ornamentation only detracted from rather than enhanced the beauty of the wearer. He hoped to see the women establish fashions

*The word Female was later dropped

that would be suited to them rather than follow the prevailing fashions of the day. (3:20) He felt that the women should be neat, clean, and attractive and that their hair should be arranged beautifully.

A little more than a year later, January 11, 1870, Governor Brigham Young appealed to the legislature for support for struggling industries within the Territory. An examination of his message gives a clearer picture of the status of the silk industry at that time:

Through a system of immigration, as novel as it has been efficient, large numbers of foreigners have been induced to come to this country. Most of them at once poor and industrious, gathered from all portions of the world, they have brought with them the useful arts of many climes which, combining, cannot but aid materially in advancing the Territory in all elements of prosperity and true progress. At the late annual Territorial Fair there were on exhibition manufactured articles, not only creditable to the Territory, but which attest alike its capability in manufactures in the skill and genius of its people. Clothes, flannels and blankets of home manufacture were exhibited, not inferior to the highest grades of imported goods of their character; leather, and goods manufactured therefrom that would be a credit to any community; watches made in Salt Lake City, equal in scientific arrangement to the best specimens from the factories of Europe or America; pottery, creditable alike to the resources of the Territory and the skill of its artisans; cocoons and spun silk warranting the belief that manufactured silk will ere long become one of the exports of Utah, and many other works of art exciting at once the admiration and surprise of all who beheld them. I need hardly say that these are entitled to receive, the fostering care of friendly legislation, and would be greatly accelerated by a well digested general incorporation law. (12: Jan. 11, 1870)

The promotional program, headed by George D. Watt, of Layton, was effective enough that sufficient inquiries were received from California, by the Utah Mining Gazette, to warrant publication of an article on the progress of sericulture in Utah. The article was published March 28, 1847.⁹⁴ ??

The magazine claimed as the source of its information Mr. Lewis Bertrand, who managed the Forest Farm for a time. He described the farm as " a large plantation of mulberry trees numbering about one hundred thousand"

and the cocoonery as being "a hundred feet in length and seventy-two feet in width."

Among other people notable in sericulture in Utah were said to be "Mr. Paul Schettler who (on his farm near Camp* Douglas) has already commenced a very large plantation of the finest species of mulberry trees, imported directly from France." The trees were doing well and improving rapidly every year. Mr. Schettler had plans at that time to build "a model cocoonery with all the modern improvements." Mr. Paul Cardon of Logan in Cache Valley was also claimed to be a sericulturist of repute who fully understood reeling and "the care and attention needed to secure the successful growth and breeding of the silk worm." Bountiful in Davis County boasted a few amateur sericulturists and the names of Anson Call and Mrs. Mary Carter were mentioned by the Gazette. Spanish Fork was also noted as prominent in silk raising.

"The eggs are hatched in this territory by the natural heat of the atmosphere and generally open out after seven or eight days incubation," stated the Gazette, and the breed which seemed to gain most favorable attention was of a yellow color originally imported from France by F. L. Prevost of California. The climate of Utah was considered very favorable due to prevailing dryness during the months of June, July, and August. It is interesting to note that Mr. Bertrand had sent cocoons to Europe that received very favorable comment and that he also sent specimens of eggs. Two hundred seven ounces were sent to France in 1872, and in 1873 one hundred forty ounces were sent to Lyons and twenty ounces to Florence. For years, France had been importing eggs from Japan since the Japanese eggs seemed to withstand the highly destructive disease

*Now known as Fort Douglas

pebline that so seriously threatened the entire silk industry of France after 1847. The importations had amounted to thousands of ounces of eggs every year. As a matter of fact, between 1873 and 1877, the figure reached 1,135,280 egg cards imported from Japan. (20:10) This, of course, looked profitable, and it is likely that Mr. Bertrand hoped to enter the market. Louis Pasteur had been working on the disease problem, however, and by a system of egg selection had succeeded in practically conquering the worm disease by 1875. That apparently put to an end any ambitions the Mormons may have had in that direction.

Writing of this same period but at a later date (1881), George D. Pyper gives an interesting version of the sericulture activities in Salt Lake City. He stated that Forest Farm was located four miles south of Salt Lake City and that the mulberry trees covered twenty-five or thirty acres surrounding the cocoonery. Then he says:

Mrs. Zina D. Young [a wife of President Brigham Young] was the first to take charge of the cocoonery, and, in raising the worms was comparatively very successful. The following year a Frenchman named Bertrand, a questionable expert in the silk line, through mismanagement, made a failure. A Kentuckian named Wimmer next took the cocoonery claiming that he could raise worms successfully. For two years he managed it, failing each year, and almost killing the enthusiasm--what little there was left--on the subject.

These failures cost considerable money and labor, and did nothing toward advancing the interest of the silk industry. It was thought that this was caused by dampness around the cocoonery and the character of the building which was made of adobe. A small brick building was therefore erected, in the rear of President Young's residence, at the 'Eagle Gate', especially for the purpose of experimenting in the raising of cocoons. The writer, then a little boy, with several young ladies belonging to President Young's family, attended the cocoonery, while men were employed gathering leaves for feeding; and in thirty-five days, by constant attendance, they raised many pounds of first-class cocoons, and sixty-four ounces of the best silkworm eggs.

Later on in the year 1875 the late Mrs. Dr. Dunyon, who was well known in Salt Lake City, took charge of the large cocoonery at Forest Farm, and met with unlooked for success. The lady in conjunction with her husband, used the whole of the building for the worms. Having energy, a thorough understanding of the business, and good management, their efforts were not in vain. Seven hundred and fifty pounds of cocoons and many ounces of eggs were produced. This was another great source of encouragement to silk raising. Since that time, large quantities of cocoons have been raised in the Territory; and when the business was conducted properly, failures were unknown, unless caused by severe thunderstorms or cold spells. . . . (23:Vol 2, No.4)

It was in June 1867 that a notice appeared in the Womans Exponent signed by Brigham Young:

Silk Worm Eggs--I have some forty ounces of silk worm eggs and a large number of mulberry trees, and the Sisters who wish to raise silk are welcome to the eggs and to gather the leaves for feeding. Those wishing the eggs are requested to call immediately.

THE WOMEN ARE GIVEN THE MISSION OF RAISING SILK

A customary thing for the leaders of the church to do during the colonization of Utah was to call on special missions those of the "Saints" whom they considered best qualified to accomplish the task to be done. Zina D. Young was the person chosen in 1875 to help establish sericulture among the women. When the Deseret Silk Association was organized June 15, 1875, she was made president of the organization. She became very active in the promotion of sericulture. Working through the Relief Society organization, in which she held the office of First Councilor to President Eliza R. Snow, and through the Young Women's Retrenchment Association, she was instrumental in getting hundreds of women and girls to engage in sericulture. The extensiveness of her efforts in behalf of sericulture and the intensity of her feelings concerning the importance of the project are best told in the frequent notations in the Womans Exponent. The first of these appeared March 15, 1875:

Silk Culture:--Is an industry very especially adapted to our circumstances and business of great magnitude which has only been experimented with enough to show its adaptability and prove that here four crops of silk may be made from the same trees each season. The eggs produced here are most valuable and the cocoons bring a premium. Now who is ready to undertake this light and profitable business.

In the same March 15th issue, in an article entitled "To The Sisters", the project assigned to the Relief Society is explained to the membership of the organization. Herein is seen the relationship of sericulture to other of the "Home Industries" being fostered by the leaders of the church, and by which they hoped to put the Territory of Deseret on a sound financial basis:

To The Sisters: --The Utah Pomologist for February, contains an excellent article on "Important Home Industries."



ZINA D. H. YOUNG

The leading figure in
the Utah silk industry



M. Isabella Horn



Eliza R. Snow

We re-publish portions of it which treat of some of those branches in which the ladies were more particularly interested:

"The varied soil and climate of our Territory give us opportunity above all other states and territories to produce all we really need, besides very many luxuries we can well do without. . . now we will name some of the industries that might and ought to be developed by our citizens, and not only furnish ourselves but also neighboring states and Territories with the many necessities we are now importing and thus unnecessarily draining our country of what little money may be afloat." [The industries listed and discussed are: sugar, rope, cordage, bagging cloth, oils, fruit, rice, sweet potatoes, peanuts, broom cane, silk, and honey.] Every branch of the Relief Society throughout the length and breadth of this territory, and wherever a branch of the church extends, is called upon to lay hold of this subject of home industry with a will and to take active part in the great work of bringing about the perfect organization of a self-sustaining people. A few may be chosen to lead out in some special branches, but, necessarily it is left for the many to look about them, consider to what their tendencies and circumstances are best adapted and move forward.

Shall we wait for one another? Can we afford to wait in the consumption of food, of clothing, of life's necessities? Let each branch and each member of a branch remember that all are consumers and that not one should be satisfied to acknowledge herself in all respects a non-producer.

There is paying work enough before this people to keep them all well employed. If anyone fails to see at a glance, a way of introducing the kind of work best suited to her capacities, or if she is ignorant of her own abilities to accomplish something worthy of regard, let her begin and exercise her brain a little. And if she is in earnest, without fail, something will come to light from which she may determine at what point she can best commence. . . .

It is now quite generally conceded that the influence which woman wields is the standard power of a community or nation. President Young does the Relief Society the credit to say that they can take hold of these home industries and accomplish the desired purpose. Let it never be said to them 'Ye would not!'

It is now time that those who propose interesting themselves in silk culture, commencing this season, should be making calculations for a start. As

soon as the ground is sufficiently thawed, the mulberry cuttings should be put out. We understand that President Young proffers to supply cuttings from his orchard to the sisters for this purpose. And his advice to them is, that they begin now, instead of putting off for another year what should be done now. (28: Mar.15,1875)

The Senior and Junior Cooperative Retrenchment Association reported a meeting in the 14th Ward Assembly Rooms on March 16, 1875, at which several women spoke on the subject of home industry and Mrs. Zina D. Young, Miss Eliza R. Snow, and Mrs. S. B. Phelps spoke on sericulture. (28:167) A few days later a meeting was held in the Lehi First Ward Relief Society in the interest of home industry. (28:171) On April 1, 1875, the Womans Exponent carried another notation:

My Beloved Sisters: (Every branch of Relief Society in Zion). . .President Young recommends silk culture as one very profitable branch for the sisters, and offers, free of charge, all the cuttings they wish, from the mulberry orchard on his farm, south of the city; with this requisition: that they shall be cut by a man who understands the business. They should be set as soon as the frost is out of the ground, or before the leaves start. In two years from setting they will support the worms.

If the Society cannot, "either for love or money" obtain ground for the purpose, it would be well for individuals to set cuttings around their home lots, where they will serve the double purpose of shade trees and of feeding worms. I have just heard of a sister in one of our Southern settlements, who has manufactured from her own raised silk, several choice articles, one of which is a beautiful netted shawl one yard and a quarter in size and neatly embroidered.

At a Relief Society meeting held in Bountiful April 20, 1875, Mrs. Zina D. Young spoke on silk culture, told how to raise mulberry trees, and encouraged the women to raise silkworms so "that silk ribbons might be made in our midst." (38:vol.4,p.18)

On August 2, 1875, the Relief Society of Farmington, Utah addressed a report of a meeting to the Womans Exponent, a part of which is significant:

. . .we also had the pleasure of listening to sister Snow and sister Preenida Kimball at a meeting in this place May 17th. . . . The instructions we received were similar to those given other places. Their whole aim is to do good, and use their influence to get the people more interested in Home Manufacture.

They wish the people to set out mulberry trees, and go ahead in the silk business, which I think we are well calculated to do in Farmington, as we have persons who understand it thoroughly, one who can prepare it for the loom and others who can weave it into cloth. (38:vol.4,p.54)

Mrs. Young again addressed the semi-monthly meeting of the Senior and Junior Retrenchment Associations of the 14th Ward on June 12, 1875. She was followed by the president of the Retrenchment Associations, Mrs. M. I. Horn, who:

. . .referred to the Savior's parable of the net that was cast into the sea which brought forth fish of all kinds, and likewise to the parable of the virgins some of whom were asleep or unprepared, while others were ready to meet any emergency, referred to the community being in a state of bankruptcy, and that it was in consequence of importing and not exporting.

Mrs. Horn was followed by Miss Eliza R. Snow who said:

. . .she felt to say "God bless all those who were starting even in a small way and endeavoring to build up Zion, but there were few comparatively who were willing to advance in the undertaking of being self-sustaining." She remarked that Sister Horn, Sister Barney, and herself were appointed as a committee to obtain means to purchase machinery to commence weaving silk; but they had found very few who were willing to donate unless there was money in it; if this had not been the case there would have been millions of mulberry cuttings put out this spring, and the silk culture would have been progressing. . . .

Mrs. E. S. Barney told the people Brother Schetler had mulberry leaves for those who wished them, and at Brother Pyper's there was a young man who could impart all necessary instruction relative to silk culture. She felt as Sister Snow did that all who would step forward in these branches of Home Industries would prosper. (38: June 12, 1875, p. 18)

On June 17, 1875, the several Relief Societies of Provo met to hear Zina D. Young encourage them in the business of sericulture.

On June 18 she spoke to the Payson Relief Society:

. . . said the mission before the sisters now was Home Industries. The authorities of the church were anxious to see the people adopt measures to sustain themselves, and they required sisters to lead out in every direction possible for the attainment of that end. Sericulture was an important item and should receive most earnest attention. We should find this was the easiest way possible to produce our clothing. We should set our mulberry trees in abundance and every family go to making silk. (38: Aug. 2, 1875)

July 22, 1875, Rebecca Wareham addressed this letter to Eliza R.

Snow from Manti, Utah:

Dear Sister Snow: Pardon the liberty I take in addressing you, but owing to the limited time you spent here, I was unable to say much in regard to silk raising, and knowing that you and your co-laborers are doing everything in your power to establish this most useful branch of industry among the sisters in Zion, I thought a few words from one who has been accustomed to feeding worms and making silk from her childhood might not be amiss.

I have had a few worms for the last three years but I have not taken sufficient to make a business of it yet, nevertheless, my experience proves conclusively that if we immediately take measures to procure mulberry trees and put them where they will be most secure from frost and work with a will, it will yet be a source of untold wealth for Utah. There are quite a number who have a few trees on their lots, and I have requested them to save the cuttings. . . . (38:150)

Ephraim was another community to report a visit from the women at the head of the Relief Society and Retrenchment Associations. In this report of July 26, 1875, Miss E. R. Snow encouraged the women to take part in home manufacture with the appeal that it would help to bring in the United Order. Mrs. Horne instructed them to get straw for hats and mulberry cuttings for silk. "Ask the brethren to assist in digging and planting, but do all you can for yourselves. . . . President Young has got the machinery to make silk; let us get the mulberries and raise the silk." (38: Aug. 2, 1875)

In August the Womans Exponent printed an invitation to "all who wish to obtain information in regard to silk worms, mulberry trees, etc." to attend a meeting at the home of Mrs. Zina D. Young, "three blocks south of the Eagle Gate, on Wednesday September 1st at 5 o'clock."

A short synopsis of the Salt Lake 19th Ward Relief Society meeting September 18, 1875, throws some light on the attitude of the women toward fashions. Eliza R. Snow had this to say: "We have been slaves to fashion, but must be so no more; we must be self sustaining. Let the sisters think what they can wear that is Zion made." She then went on to say that there was a sister coming from England who could spin silk and that machinery was being brought to Utah to weave it. Then she ended her appeal with the advice that the women could do a great deal by getting the mulberry trees planted.

Ann J. Stickney reported a meeting of the Retrenchment Association of Santaquin in Utah County. Mrs. Young instructed the girls in Home Industry. (38, Sept. 25, 1875)

Moroni, in Sanpete County, reported a meeting held October 6, 1875, to discuss Home Manufacture, and their willingness to encourage it among the members of that ward. (38, Nov. 13, 1875)

On November 13, 1875, Eliza R. Snow "gave an interesting account of her recent mission to Box Elder County and of the meetings she held with the sisters in the towns and settlements of that county." The report was that the women in that county were very interested and willing to "engage in every domestic pursuit which would tend to promote Home Industries and cause us to become self-sustaining as a people. On the same date Zina D. Young gave a similar account of her mission to Sanpete County. (38, Nov. 13, 1875)

Mrs. Elizabeth H. Goddard reported a meeting of the 13th Ward Relief Society of Salt Lake City, November 22, 1875, and stated: "We are always on hand and ready to assist in sustaining Home Industries, or anything else that would tend to build up the Kingdom of God."

Jane Spiking Vance reported from Cedar City in Iron County, telling of a special meeting addressed by Mrs. Barney of Salt Lake City. "Her discourse was spirited and full of principle; it ran chiefly upon the United Order and Home Manufacture in its various branches." (38, Nov. 23, 1873)

West Weber Relief Society reported that as yet nothing had been done there in Home Industry but that next summer they would try to make a start in raising silk: "We have the mulberry trees here in the settlement, and we do not wish to be behind our sisters. We had Sisters E. R. Snow and M. I. Horn visit us a short time ago, and they gave us some excellent advice showing the necessity of our becoming a self-sustaining people. . . ." (38, Jan. 15, 1875)

Mrs. M. I. Horn wrote the Womans Exponent that she had organized the young ladies of Paris (in Rich County) into a Retrenchment Association. President Rich had expressed himself as being willing to do all he could "to sustain Home Manufactures, and help build up the kingdom of God." (38, Jan. 15, 1876)

As evidenced by the reports just quoted, the first year of promotion, under the able direction of Mrs. Young, was a very active year and far more successful than the previous years had been. It was necessary for her and the women who assisted her, to travel long and hazardous distances under very trying circumstances, but no hint of complaint is anywhere evident. They had a mission to accomplish and

were faithful to their cause. It appears that they did not neglect a settlement or community, and wherever they visited they met wholehearted co-operation.

LOOKING TO THE FUTURE

At the December and January meetings of the Deseret Silk Association, the members began to look to the future of the silk industry as well as to appraise what had been accomplished already. Limited funds curtailed activities they might have wished to begin, but they planned what they could. The meetings were held at City Hall in Salt Lake City, on December 1, 1875, and January 3, 1876. Mrs. Zina D. Young presided.

At the December meeting:

Mrs. Young. . . said she would like to have the means sufficient to purchase all the cocoons that were in the Territory.

B. W. Schettler said that he felt very much interested in the raising and manufacturing of silk; spoke of the time when President Brigham Young advised the brethren to send and get some machines; said that he sent and got two Shekard looms, he had one left the other got burned. The machines when imported cost 350 dollars; he proffered to let the society have the one at 100 dollars if after it was fixed up and had been worked they were satisfied with it; said that he had written to brother Paul Schettler who was in California for more particulars regarding the machine, and would report in one week, but proffered the society the use of the loom and pattern cutter.

Brother Hanney of Provo, being present, said he could fix up the loom and could also work it.

Brother C. W. Stayner read, from a report of the statistics of the American Silk Association, New York, Nov. 30th, 1875. . . .

Brother A. M. Musser said that all enterprises at first had small beginnings, for example referred to the church when first organized; . . . advised the brethren to put out trees and help the work along; said now was the time to put out trees. . . spoke of the manufacture of silk if made a successful business of, what a benefit it would prove to the people, and of the amount of wealth it would bring this Territory; said that he had 3000 mulberry trees that were doing well; motioned that Brother Hanney of Provo work the loom left with the Supt. and Pres.

Mrs. Zina D. Young said that Mrs. Donyon had presented the association with several ounces of silk-worm eggs which could be obtained by applying to her, the proceeds to be for the benefit of the society.

There was also a very fine specimen of homemade silk which was raised and reeled by Mrs. Delinda Robinson of Farmington. It was pronounced by competent judges to be as good as they had seen anywhere.

Brother Reuben Simson read an article to show the benefit of raising and manufacturing of silk.
(38, Dec. 15, 1875)

At the January 3rd meeting of the Association Mrs. Young voiced the opinion that there would be a greater interest taken this year than had been the last. She said many of the Bishops had promised to use their influence in having trees set out and the Relief Societies had promised to take hold and help in the matter. She thought a good feeling prevailed throughout the settlements toward the project. She made reference to the intention of the association to send some of the silk, reeled by Mrs. Robinson of Farmington, to the Centennial.

Mrs. Barney said that she had a silk shawl in her possession made by Sister McLeland of St. Claire of silk she raised herself.

Mrs. M. I. Horn asked the price of eggs and cocoons. "Alexander C. Pyper said that the prices of eggs and cocoons were as follows: eggs 4 dollars an ounce, and that there were 20,000 in an ounce. Cocoons 2 dollars per pound, and that reeled silk was worth 9 to 10 dollars per pound." (38: Jan. 15, 1876)

A notice was published in the Womans Exponent along with the minutes of the January meeting:

The Society wishes to say that those persons who have any cocoons that are fresh and good and wish to sell them or have them reeled, the Association will purchase them or reel them into any kind of sewing silk they desire; also any persons that understand the reeling of silk in all its branches will please report immediately to the president

of the society, Mrs. Zina D. Young, Salt Lake City, or to the Secretary, Reuben Sympson, P. O. Box, 584, Salt Lake City, Utah

Reuben Sympson
Sec. pro tem
(38, Jan. 15, 1876)

On May 1, 1876, Mrs. E. Davis of the 14th Ward in Salt Lake City wrote:

Specimens of fine Honiton and Cluny lace consisting of black silk lace veil, white lace collars, barbes, wide and narrow lace for trimmings are now in my possession. These laces are home productions, made by Mrs. W. J. Compton, Mrs. L. and P. Durant and Mrs. J. Adams, of Morgan County. This business is likely to prove one of the most lucrative in our Home Industries. (38, May 1, 1876)

The women of Ogden succeeded in completing a Relief Society building "intended not only to hold meetings but to combine different departments of Home Industries for women." President Brigham Young made a trip to Ogden to dedicate the building on April 19, 1876. He spoke in commendable terms of the efforts of the women "in assisting to sustain Home Industries, taking care of the sick, practising economy, etc." (38, May 1, 1876)

At the First Ward School House, on May 10, 1876, the Retrenchment Association of that ward heard Mrs. Zina D. Young talk on the advantages of silk culture and the lack of machinery that was needed for its manufacture. The 14th Ward Retrenchment Associations discussed the same subject on May 27. (38, June 12, 1876)

Aurelia S. Rogers, of Farmington, reported a meeting held in that ward on June 7, 1876. Bishop Hess addressed the women. He complimented them on their accomplishments especially making silk and setting out mulberry trees. Mrs. Rogers said:

In my last report I said we had persons here who were competent to make silk. Since then, Sisters Lucinda Robinson and Nancy Clark, have spun some silk thread, and Brother Hadfield has woven it into handkerchiefs, and they are now preparing a piece of silk for dresses. I cannot describe my feelings when I saw the first skein of silk made here; but I thought anything could be accomplished if the people only had the will, and would make the effort. Our President, Mrs. Holmes, and her Counselors, mean the silk business shall be a success if their energy and labor can bring it about. They spent days last fall in getting a mulberry orchard of over one hundred trees set out on a piece of ground given to the society by Brother Grover for that purpose. Many do not know the inconvenience Pres't Holmes has had to work under (living two miles out of town etc.). (38, June 12, 1876)

The Deseret Silk Association felt that real progress was being made when the annual meeting was held, according to the report published in the Womans Exponent:

One year ago to-day, June 15, 1876 the above named association was organized without capital, yet, by the blessing of God upon the diligence and perseverance of those who labored, and the means appropriated by donation from different persons in the community, the Society has been able to pay for nearly all the cocoons that were for sale in the Territory. Seventy pounds of cocoons have been disposed of for reeling; fourteen pounds have been donated to the Society.

Seventeen silk pocket handkerchiefs, (a very good article) have been woven, and twenty-five yards more of the same material are now in the loom; a sample silk stocking has been knit on the Lambs' knitting machine; three pounds of silk have been made into sewing silk, floss and twist; this twist is for sale at the Z.C.M.I. Some of the silk has been woven into pillow lace. Some of the cocoons have been spoiled by moths and millers soiling them. By referring to Mr. Piper's [sic] remarks in the Deseret News, and carefully observing, these difficulties may be obviated.

A few large cocooneries will not be as beneficial to the community as if farmers in general would devote a portion of land to raising mulberry trees, which would give employment to aged people and children, and would be

a source of wealth as well as to promote industry.

. . . Samples of silk were taken from Utah, by Elder Paul Schettler, to France and Italy and by competent judges there were pronounced of the best quality. It now requires quantity before machinery can be made practicable, meantime, stockings, sewing-silk, floss and etc, can be manufactured for home use.

Although a few in numbers, as yet, we hope to see this enterprise prosper, as also all others that will benefit the community. Hoping that it may increase in interest each succeeding year.

Zina D. Young
President Deseret Silk Association

Brother A. M. Musser. . . had 2,000 mulberry trees that were doing well; he anticipated great results. Brother Smith from Bountiful, a silk weaver spoke mostly upon getting of machinery; said it would be very little expense to procure sufficient. Sister Smith also made some excellent remarks. The silk business is progressing slowly but effectually. Some of the finest cocoons are now ready for use. Miss M. A. Rockwood spoke of having commenced to learn the silk reeling; she began about two months ago, and intended making herself proficient in the silk work; was pleased with the occupation. There is now a very fair prospect for some real benefit to accrue from the manufacture of silk in Utah, although there must necessarily be time to bring about any great purpose. (38, Aug. 1, 1876)

Soon after the annual meeting, those who could reel and throw the silk were called in to Salt Lake City to teach others how to do the same work. Mrs. Susanna Cardon of Logan was one of those women. Her silk was such a fine quality that she was asked on a special mission to teach. She left a baby a year old as well as six other children and spent three months, without pay, to teach classes the art of reeling. (2, Vol. 3, p. 131). The class members were made up of women and girls who had been called to represent their various communities throughout the Territory. They were expected to return to their homes later and teach others what they had learned.

There were few families at that time who could afford a special building for a cocoonery but many of the housewives felt that they could give up one room in their homes for the sake of raising a few silkworms. An ounce of eggs looked like a small quantity and six weeks did not seem a long time to spend ones spare time feeding and caring for the worms. It is amusing that before the cocoons were spun, many of the families were literally turned out of their homes to accommodate the rapidly growing worms. One room after another was given up until the family was often found camping in the orchard by the end of the six weeks. Miss Sophia Packard laughingly recalls that the first year her mother, Mrs. Elizabeth C. Packard* raised worms, nine of the ten rooms of their home had finally to be cleared to accommodate the worms. Instead of the mother spending a few minutes a day, it usually took the united and full time efforts of the entire family to provide the bushels of leaves needed daily for the ravenous appetites of the older worms. In addition to feeding, the worms needed to be placed on clean trays each day and the papers which collected the droppings carefully burned to prevent disease. Since the silkworm breathes through tiny orifices near the legs, crowding, moisture, or litter prevents normal breathing, causing the worm to sicken and die. They also had to be protected from drafts, changes of temperature and tobacco fumes, as well as ants, rats, mice, and spiders.

The dry climate of Utah was an asset to the people who raised silk, but there were occasional flash thunder storms over the mountains to cause concern over the welfare of the worms. Miss Packard said the worms seemed crazy with fear of lightning and thunder. When a storm struck, they would raise their heads and stiffen their bodies as if paralyzed.

*Mrs. Elizabeth C. Packard was the last president of the Utah Silk Commission

George D. Pyper wrote:

I have seen in our cocoonery 50,000 three inch worms stand on end and quiver as if shaken by electricity at every flash of lightning and crash of thunder, and after the storm was over hundreds of dead ones were found on the hurdles. These were literally frightened to death. Then after things calmed down and the live ones again attacked the leaves, the sound was like rain on the roof. I tell you it was thrilling! When you don't hear a good healthy sound like that, look out, for something is the matter with your charges. (25, Mar, 18, 1933)

The pioneers would cover the windows and close the doors to protect the worms all they could from such storms. Infrequent salt storms off Great Salt Lake occasionally caused loss of silkworms and sometimes late frosts would damage the leaves of the mulberry trees so they could not be used for fodder.

Such tedious and constant demands resulted in many failures in sericulture at other places in the United States, but the Utah pioneers could scarcely be accused of any such neglect.

Minute silkworms hatch at 75 to 80 degrees Fahrenheit, from eggs no larger than the head of a common pin. They grow rapidly and except for the four moultings when the outer skin is shed, eat constantly. They are about three and one-half inches long in forty days and have become almost transparent. Then they refuse to eat and raise their heads to find a suitable place to spin their cocoons. The pioneers usually provided scrub oak for that purpose. The worms attach themselves to the branches by means of tiny silk fibers excreted through small openings on each side of the head. Then, throwing their heads back and forth they continue to give off the silken fiber, from 1000 to 1300 yards in length, until they are completely enclosed in a cocoon about the size and shape of a large peanut. It takes about forty-eight hours to complete the spinning and in four to six days the cocoons are removed and the chry-

salis in each killed in the hot sun*. If a cocoon is particularly fine, the chrysalis is not destroyed but permitted to develop into the milk-white moth which pushes through the cocoon in twelve to fifteen days. The female moth lives about three days and lays about 500 eggs. In Utah these eggs were kept for the next season in "ventilated metal recepticals" at a temperature below 50 degrees Fahrenheit (usually in a cellar). (24, vol. 38, Nov. 1935)

Tubs of hot water softened the gum on the cocoons to be reeled and a small whisk broom brushed the ends of the fibers loose. Home made reels were most often used to wind the silk from the cocoons, and deft fingers had to be trained to feel when a tiny silk fiber was accidentally broken. It is claimed that the reason for the fine quality of the Utah silk was largely a result of skillful reeling. Up to 14 cocoons were reeled together to form a single strand the consistency of hair. These might be used alone or twisted with other such strands to form coarser yarns or sewing thread. Such fine filaments were not easy to see and only pampered and trained hands can do a good job of reeling silk. If the fibers were broken too often during the process, the yarns were not so fine and beautiful when they were woven into cloth and the silk gum was boiled off. For this reason the women often had the reeling done for them, on shares, by the women or girls who were trained to do it. (25, Mar. 18, 1932) (Miss Sophia Packard, Salt Lake City, Utah)

The fibers of the cocoons cut by mature moths permitted to emerge from the cocoons to lay eggs, were also used. These cocoons were boiled free of their gum or sericin and then carded as was wool and cotton. Sometimes silk was spun alone and sometimes it was mixed with wool.

*Other methods are used but this was the method most often used by the Mormons.

Fabrics made from such yarns were good or not so good according to the skill of the workmen. (Miss Sophia Packard, Salt Lake City, Utah)

Before the time of his death on August 29, 1877, Brigham Young had the satisfaction of seeing the silk industry making satisfactory progress. Capable and energetic people were promoting the cause and an increasing number of producers were becoming interested.

Governor George W. Emery spoke of it in his message to the Legislative Assembly of the Territory of Utah on January 15, 1878. He said:

The silk culture is attracting some attention in the territory, and it has been demonstrated by actual experiment that our climate and soil are admirably adapted to the mulberry tree and the production of silk. It is believed that this will be a profitable industry. But small capital is required to engage in it and it is especially suited to persons of limited means, who desire to make small investments and are satisfied with reasonable returns for their labor. The silk which has been produced so far is of good quality, and the manufactured fabrics are of an excellent and substantial character. If any legislation is deemed necessary to foster this branch of home industry, I hope you will not fail to enact it. . . .(18, Jan. 15, 1878)

COUNTY SILK ASSOCIATIONS

Father Daniel Graves of Provo was one of the most faithful and persuasive advocates of sericulture at that time. His activities included compilation of a treatise intended to assist the Utah growers in solving their sericulture problems. By January 4, 1878, he had made a circuit of the settlements of Utah county encouraging the people to grow silk. A report of one meeting he held at Benjamin indicated that the people responded well to his message. In that little settlement they agreed to plant 1000 mulberry trees by spring. One man donated the land and offered to plow and prepare the soil for planting. Others offered to plant the trees.

By June 9, 1878, he had aroused sufficient interest in the county that the Utah County Silk Association was organized. Mrs. Mary Hindley of American Fork was made president of the organization and the presidents of the Relief Societies and Young Women's Improvement Association (formerly Retrenchment Associations) acted as a board of directors. Emma Featherstone was secretary; Jemima Durrant, treasurer; Mrs. Samuel Cornaby, corresponding secretary; and Daniel Graves, traveling representative. A constitution and by-laws were adopted and subscriptions were collected to promote the enterprise. (7;136-137)

The Deseret News continued to give some publicity from time to time in the interest of sericulture. On March 4, 1878 appeared:

Silk--Today we were shown by Sister Zina D. Young, President of the Deseret Silk Association, a specimen of black silk ribbon, of excellent quality. It is from Utah silk and was woven by Sister Wadrup, of Centerville, upon a loom built at that place, after a model brought from England by Sister Porter, and purchased by the Association. A large number of silk handkerchiefs have also lately been manufactured and are for sale at the Commission Store, Constitution Buildings.

Those wishing to purchase silk worm eggs can procure them from Sister Young at her residence.

Now is the time to plant our mulberry trees. Purchasers can be supplied on application to William Ressler. Those living north can procure them from him in this city, and those south at Forest Park.

As we have before affirmed, the success of silk culture and manufacture in Utah is but a question of time. By the assiduous labors of a few who take active interest in this industry, gradual progress is being made and, as a natural consequence, a continuation on the same road will lead inevitably to final triumph. In the various settlements of the Saints the interest in this industry should be agitated and kept in a continuous state of activity.

The April 12 issue of the Deseret News carried this announcement:

What Can Be Done--We were shown today by Mrs. Zina D. Young some samples of silk work from Payson. They consist of a pair of gloves; a pair of mitts; a veil; two neckties; and some skeins of spun silk, white, black, blue, purple, maroon, and straw color. Mrs. Grace Wignall of Payson raised the eggs, spun the silk, manufactured and dyed these articles in her own house. The lady deserves more credit for her industry and ingenuity than we are able to give. . . .(38, Mar. 12, 1878)

In the Dixie region, where a considerable quantity of silk was produced, the project gained impetus in 1878 when Mrs. Susan Stringham was sent there as an instructor in sericulture. Previously there had been several women who produced successful crops. Among them were Mrs. Lydia Knight of Santa Clara and Mrs. Ann C. Woodbury and Caroline Jackson who sent some of their skein silk to Philadelphia for the 1876 Centennial Exhibition. Silk throwing was done by spinning wheel in early years in Utah but the St. George Silk Association raised five hundred dollars to purchase a power machine for that purpose. Armond Hoff, a Swiss German silk weaver who settled in St. George, was the favorite weaver of that community and the women took their prepared silk to him to be woven into fabric. Several hundred yards were produced in that way. Other communities in southern Utah to become producers of silk at about that time

were Springdale, Rockville, Orderville, and Kanab.

Also in 1878, the Logan Relief Society began a group project of raising silk. Mrs. Susanna Cardon directed the project, provided the eggs and taught the women how to raise silk. She also held classes to instruct the young women in reeling. This most unselfish woman won medals for the excellence of her own silk in various parts of the United States, in New Jersey, California, Chicago, and St. Louis. (2, vol. 3 p. 130)

Box Elder County also organized a silk association in 1878. Mary Stark became president with S.P. Boothe, Mary Snow, Eugena Peirce, and Lydia Snow Peirce as assistants. Each ward Relief Society had previously purchased from one-half to one acre of land and planted it in mulberry trees. Anyone who wished to care for worms and did not have sufficient mulberry leaves of their own, could get leaves from these orchards to feed their silkworms. Mrs. Harriet Squires Snow directed the work at Brigham City; Jane Perry at Three Mile Creek; Mary Ann Hubbard at Willard; and Hannah Harper at Haper. Mrs. Octavia Peirce had been sent to Salt Lake City to learn to reel silk and she taught one person in each ward how to do the work. (6:73)

The Utah County Silk Association held a unique meeting about the first of September of that same year. The newspapers gave the following interesting account under the September 5 dateline:

On Friday last, the members of the Silk Association of Utah County, met by previous arrangement at Father Graves' gardens, situated east of this city. The day was delightful. The members from the north on their arrival by train were met by the Provo City Brass Band, who accompanied them to the gardens, and were there cordially welcomed by Father Graves. A fair representation of the county was present. American Fork did honor to the occasion by some thirty of the sisters from that little burgh.

After discussing the picnic under the cool and shady arbors; meeting was called at the bowery; after music from

the band, Father Graves spoke of the business of the association, its present prospects were bright, but somewhat retarded by the lack of funds, entertained the idea that some project would be developed that would meet the emergency.

Sister Hindley, president of the association for Utah County, spoke encouragingly of the attempts made by the sisters, which in her mind undoubtedly would yet result in success, advised the members to still continue their efforts and was in hopes of a good market being obtained for their cocoons.

On motion of Mrs. Darrant, it was unanimously agreed that committees from the Relief Societies and Y.L.M.I.A. be appointed to visit each family of the county and solicit funds for the purpose of buying machinery and purchasing the present crop of cocoons.

President Paxman encouraged the sisters in their laudable undertaking, and hoped the measures adopted for the means of raising the necessary sum for the further advancement would be successful.

The reports from the wards of the county showed that 150 pounds of cocoons had been raised in Utah County, and over 3,000 mulberry trees planted.

Brother Graves exhibited a sample of skein silk, of which he has sufficient to make filling for 25 yards of cloth.

Meeting then adjourned until October. After the adjournment, members enjoyed themselves in dancing, swinging and other amusements agreeable to their inclination. The day passed off very pleasantly, and we trust not without awakening an increased interest in the cause of sericulture.

Rus in Urbe (8, Sept. 5, 1878)

When the November 9 meeting of the Utah County Silk Association was held at Provo, the secretary read a report of the donations collected by the auxiliary organizations in the various communities. A review of the collections indicate just how wide spread the interest in the organization was at that time. The report read:

Provo City.....	\$22.25	Goshen.....	\$ 5.00
Springville.....	29.00	Lehi.....	10.00
Spanish Fork.....	22.30	Alpine.....	15.90
Payson.....	5.00	American Fork..	46.89 $\frac{1}{2}$
Santaquin.....	4.40	Pleasant Grove.	17.00
		Total	\$178.64 $\frac{1}{2}$

The Association was pleased that enough money had been raised to purchase the cocoons that had been produced "so that the sisters might be stimulated in the work of raising silk." It was decided that the Relief Society and Y. L. M. I. A. groups in the county would each contribute fifty cents per year to keep up the contingent fund. Father Graves referred to a loom that had been offered for sale at fifty dollars. Stake President A. O. Smoot, who was at the meeting, recommended that first, as liberal a price as possible be paid for the cocoons and if there was a surplus, to buy the loom. He felt that it would be "wrong to lay down a lot of machinery here if there was not silk enough to justify the outlay." He thought the cocoons should be bought and reeled and if the silk were not needed at home it should be shipped to other places and sold for cash. (8, Nov. 22, 1878)

Meanwhile, Daniel Graves had been corresponding with William G. LeDuc of the United States Department of Agriculture in Washington D.C. Mr. LeDuc had expressed interest in the "experiment" in Utah and offered to assist in any way he could. He advised Dr. Graves to plant as many Osage Orange plants as he could find room for. The Department of Agriculture had fed worms on Osage Orange for eight years and would have some of the eggs ready for distribution in the spring, he said. He also offered to send some tea plants in about eight months. (8, Nov. 5, 1878) Presumably the tea was to be used as a mordant for dyeing; although not much information is available about the methods used in Utah for dyeing silk. It is known that the Provo Woolen Mills did some custom dyeing, (5:397) and in later years silk was sometimes sent East to be dyed and then returned for weaving. (32:16)



UTAH SILK ASSOCIATION

 CAPITAL STOCK, 500,000.00.

Incorporated January 17, 1880

Number of Shares 1,000 Share \$10.00 Each

This is to Certify that George D. Fisher

is entitled to 100 *Shares of Ten Dollars each of*

the Capital Stock of the Utah Silk Association, transferable on the books

of the Association only on surrender of this Certificate

In Witness Whereof, the Board of said Association is hereunto attested at

 Salt Lake City, Utah, this Twenty first day of April 1887

A. M. Miller *Alvin L. Fisher*

 Secretary President

SILK MANUFACTURING

The silk industry was looking quite promising in Utah when the Desert Silk Association incorporated under the laws of the Territory as the Utah Silk Association on January 17, 1880. Alexander C. Pyper (who had been business manager for Brigham Young) was elected president, with A. Milton Musser as secretary. Other officers were William Jennings, Eliza R. Snow, and Paul A. Schettler. Stock was sold at ten dollars a share. Ground was then leased at the mouth of City Creek canyon, a brick building was erected and machinery was purchased for a silk factory. The machines were run by power from the old mill wheel that had furnished power for a saw mill in earlier days. The branch of silk manufacture for which the factory was intended was reeling and throwing of silk and the manufacture of sewing silk of various grades. Several hundred pounds of cocoons were purchased and the work began. (23, Jan. 1881)

George D. Pyper described the work in this way:

In the main building belonging to the Association, is a complete set of throwing machinery, consisting of two reels. . . on hard silk winder. . . one doubling machine, one spinning mill, one soft winder. . . one spooler. . . . Four persons are constantly engaged in this room. . . . The aggregate cost of the buildings and machinery cost about three thousand dollars. (23, Jan. 1, 1881)

During September of the year 1880, President and Mrs. Rutherford B. Hayes were visiting in Salt Lake City when the Relief Society presented Mrs. Hayes with "an elegant lace fischu made of native silk." It was made by Mrs. Ursenback, who had gained prominence for her lace making, and was valued at 75 dollars. Mrs. Hayes was delighted with the gift which she assured the Utah women she would wear at state occasions. (36:555. 37:296)

After a year or two of experience at the silk factory, it was found that "it cost more to manufacture silk in this way than it was

worth in value in the market, and the enterprise was given up for a time." The venture cost between four and five thousand dollars, which included the machinery, a new turbine wheel, cocoons and partly manufactured silk. (8, Jan. 9, 1884)

The Utah Silk Association then decided to prepare the factory for the production of dress goods. With a single hand loom the factory began operation April 25, 1883. The Deseret News of that date stated:

Mr. Jas. Chalmers, an expert silk weaver, recently arrived from the East, is about to begin that branch of manufacture, at the premises of the Utah Silk Association, near the mouth of City Creek. A loom has just been completed under his directions, and a quantity of material has arrived from the East, sufficient to turn out 400 yards of silk fabric to start with. The goods to be turned out by Mr. Chalmers will be genuine in every respect, and we hope will receive that degree of encouragement that will enable him to continue and cause the industry to develop.

The inauguration of the manufacture of silk fabrics will no doubt act as an additional impetus to the pioneer band who have been struggling for years to place the Utah silk industry in such a position that the native material could be put through the various processes here that would render it ready for the hands of the weaver. At present there is a gap between, which, however, will doubtless in due time be filled. Brother Musser is giving Mr. Chalmers all the assistance in his power.

All the dry goods merchants who saw the fabric produced at the factory felt it was equal to anything of its kind they had handled. Various delays, however, in getting everything into operation prevented the selling of the fabric before the season for such goods was over. A few dress lengths were sold privately. (8, Jan. 9, 1884)

The Utah County Silk Association also made something of an effort to begin the manufacture of silk fabrics. October 17, 1883, Father Daniel Graves announced the arrival in Provo of an experienced silk weaver, a Mrs. Chadwick of Bethnal Green, London. She had been emigrated by the Utah Silk Association and had brought with her "a full

stock of implements for use in her business, with warp and woof sufficient for 40 yards of black and white check." The Utah County Silk Association had trained nine girls to reel and had imported four new reels to provide silk for weaving and announced they were prepared to receive good cocoons to reel on half shares. (8, Oct. 17, 1883) Mrs. Zina D. Young reported Mrs. Chadwick's progress on November 14, 1883. Some very nice handkerchiefs had been woven. Some were made of Utah silk and some of imported yarns. The Utah silk had been raised, reeled, dyed, and woven in Utah. The loom Mrs. Chadwick had used was also made in Utah. The opinion was expressed that Mrs. Chadwick was a "valuable acquisition to Territorial silk interests." (8, Nov. 14, 1883)

In the meantime, two power looms and the appurtenances for jacquard or figure weaving were purchased and forwarded from New York to Salt Lake City. They were set up in the silk factory being managed by Mr. Chalmers. On January 9, 1884, operation was begun to produce dress goods and handkerchiefs "on a scale to compete in price and quality with any manufactory in the United States." The capital necessary for the enterprise was provided by "Brother" Thomas Miller of New York. (8, Jan. 9, 1884)

An interesting story connected with the looms imported was told by Margaret F. Eccles and published by the Daughters of the Utah Pioneers. She said:

As Margaret F. Cullen, I arrived in Salt Lake City, June 1, 1884. I was 18 years of age and had become affiliated with the Latter Day Saint Church in Glasgow, Scotland, in 1881. I was an experienced power loom brocade silk or harness weaver. The structure of such a loom is very complicated, but I had acquired a technical education of all its working parts and could read any pattern card used in weaving. My aunt had written me from Salt Lake City in 1882 saying that a revival of the silk industry was contemplated, but there was lack of

power loom and harness weavers, and because I had learned all the steps in weaving plain, plaid, stripes and flowers and could read patterns on cards or steel barrels my knowledge could be used to teach others if I came to Utah.

But when I reached Salt Lake City I learned that there was nothing being done in my line. The silk mill boasted one hand loom operated by a Mr. Chambers. Six months after my arrival, I married William Stewart Geddes. I became acquainted with him while he was President of the Scottish Mission.

The next summer Mr. Chambers and others came to my house and told me that a jacquard or harness loom had been installed in the mill. The warp had been placed, the heddles threaded, the pattern on the cards set, the weft spun and wound and the water power attached. But an experienced weaver had not been found. They said they had heard of my proficiency on brocade weaving and would be delighted to procure my services, for which I would be well paid. . . .

I promised to do the weaving. . . . I said I would not consider money as remuneration, but if agreeable I would accept a dress length of the silk. . . .

In two days my hands were smooth, so on the morning of the third day I arrived at the mill on Canyon Road where I was met by Mr. Chambers. The mill was a very humble affair, one winding machine, one hand loom manipulated by Mr. Chambers who wove the handkerchiefs with the model of the temple in one corner, one power loom on which a Miss Frost was weaving striped silk, and the wonderful jacquard loom which I was to attend. Words are inadequate to express the joy I experienced at having the opportunity of working at my beloved trade. I seldom even felt weary. The loom worked perfectly, only once giving me any trouble, which I quickly adjusted.

All too soon my task was finished. My work was satisfactory. The bolt of silk was exhibited in the windows of the Z.C.M.I. I received enough silk for a dress and an extra waist. I made my dress, trimming it with black lace, steel buttons and a wide black sash. That fall (1855) I wore my new dress to the wedding of Sarah Stewart Cambell and Moses Taylor which was held in Gardo House. During the evening a Miss Taylor, sister of President John Taylor, sent for me and in the course of our conversation asked where I had obtained the material for my dress. I replied "at the Z.C.M.I." She wished to know how I got it as she understood it was a very special order and woven for a special purpose. When I

1855?

told her I was the weaver and had stipulated a dress length as my remuneration, she seemed satisfied. I observed she was wearing a dress of the same material.

. . .but I never saw that wonderful loom again. No one seems to know what became of it. . .(2,vol.2, p.484)

The patterned silk Mrs. Geddes wove is likely the same as that spoken of in the following quotation from the Deseret News:

Mrs. Annie Schettler, wife of Paul A. Schettler, Esq., has shown us an elegant silk parasol made by her own hands out of home-made silk, and a bonnet and dress of the same material. It is gray in color and flowered beautifully. The silk industry is advancing. (8, May 14, 1884)

The water power at the silk factory was not dependable and sometimes there was only sufficient power to run half time. A steam engine was badly needed, and some felt it would be more economical in time. A Deseret News writer said:

There is at present over \$2,000 invested in this enterprise, in money, besides many months of incessant labor, and there are still many obstacles to be fought and overcome, but by persistent effort these will no doubt be conquered and the business will achieve permanent success.

The reeling of native silk from the cocoons, and its manufacture, is the point aimed at by the present management, and means are now in operation that, it is believed, will effectually remove the difficulties which hindered the accomplishment of this desirable object, and it is intended early in the spring to obtain machinery to reel, spin and throw, and prepare material suitable for manufacturing purposes, in sufficient quantity and at such a cost as will preclude the necessity of importing silks in any shape or form, and that will at some future time enable us to export, thereby bringing means into the Territory instead of draining it annually of thousands of dollars.

If this industry receives proper encouragement and support it will assuredly furnish silk goods at reasonable figures, keep money at home instead of paying it to commission merchants, brokers, etc., and will furnish clean and healthful employment to

many of our sons and daughters. Silk handkerchiefs and dress goods are kept for sale and may be inspected by all who desire at the factory in City Creek Canyon.
(8, Jan. 9, 1884)

A. Milton Musser published a notice in the Deseret News April 29, 1885, which would indicate that the necessary machinery was procured. The announcement read:

To the Silk Growers of Utah--We are now prepared to take your cocoons and reel them on our improved reels, and when reeled and weighed we will credit you three dollars per pound for the raw silk and pay you in silk dress goods and handkerchiefs as good as the imported, at wholesale prices.

From parties who have reeled silk to dispose of, we will purchase it and allow from four to five dollars per pound, according to quality, and pay for the same as we do for cocoons.

Please let us hear from you.

A. Milton Musser

Silk Factory, Cañon Road
Salt Lake City
April 25, 1885

The Silk Factory was to be disappointed, however, for the production of silk in Utah had begun to decline. The Deseret News of September 23, 1885, expressed the opinion that:

. . .that it is somewhat surprising in view of the ease with which mulberry trees and silk worms can be raised, and their combined product--cocoons of silk--be obtained; and the smallness of the outlay required in comparison with the heavy and sure returns to be realized from it, that more persons do not engage in the business. . . . We think, too, it might very properly be encouraged by and carried on under the auspices of the Primary and Improvement Associations.

As it is, there is not now enough silk being raised in this Territory to supply the one factory in operation and the manager has lately been under the necessity of importing the raw material from abroad to keep the business going.

Yet in spite of such expressed opinions, silk production continued to decline in Utah for several years. The background of this changing picture had begun with the completion of the transcontinental railroad in 1869. The daily living in Utah was gradually changed at that time. Goods were made available that had been difficult to obtain when everything had been imported by wagon train. The people became more prosperous and could better afford to buy the necessities as more goods became available. The tremendous growth of silk manufacturing in the United States had established a growing trade with Japan and quantities of Japanese silk was available, via the West Coast, and transcontinental railroad, at a price discouraging to producers in this country. The price of raw silk had declined from \$5.75 in 1877 to \$3.50 in 1885 and the indication was that the decline would continue. (20:90) The close-knit cooperation between the people that had been so essential to the pioneer life in Utah was no longer necessary. People who may have raised silk at one time, because they thought their help was needed, no longer felt that obligation. Constantly improving machinery and methods of silk manufacture had resulted in more silk fabrics on the market at a cheaper price.

During the next several years, some of the more persistent advocates of sericulture continued to encourage the Utah people to grow silk and seemed to have undying faith in the future of the silk industry. The Ogden Herald of April 27, 1887, carried the news that the Improvement Associations of the Ogden 4th Ward had recently purchased 60 mulberry trees and planted them in the ward, "with the view to assist persons who desire food for silk worms." The Utah Industrialist, a monthly magazine published at Provo, contained this reply:



ADELINE HATCH BARBER
Dress and Tablecover
of silk made by her



OLD COX HOME, MANTI, UTAH
Where silk worms were grown and silk
spun from cocoons



A group of women and girls who were members of the St. George
Silk Association in the 1800's

I can inform Mr. Neilson that any one wanting a reel can purchase one for \$10. There are three of them in this county which were purchased by the President of the Utah County Silk Association. . . . So far as the reeling of the coccons is concerned I will state that our society employed a reeler, a young lady who has been taught by Mrs. Borden of Logan. . . .

Before the silk industry can be made to compete successfully, however, a quicker way of reeling the silk than by hand, as at the present time, must be employed. . . .

I have advocated the establishment of a complete filature with its automatic reels, etc., for the reason that it is clearly shown in work that it is essential to make sericulture a success in Utah. . . .(29:271)

The Utah County Silk Association elected, August 15, 1887, Mrs. M. A. Till county chairman and she and her co-workers were resourceful in trying to keep the industry alive. On December 21, 1887, the Deseret News reprinted a news item from the Provo Inquirer. It said:

The subject of silk culture was one of the main topics in the afternoon session of the Relief Society Conference held on Friday last. After Mrs. Sarah Saunders had been unanimously selected to act as first counselor to President M. A. Till, of the Silk Association. . . .Father Graves stated that he proposed visiting Salt Lake City, and seeing the Governor with a view to petitioning him to lay the subject before the next Legislature in his biennial message, and to urge him to use his influence in having that body make an appropriation for the encouragement of the silk industry. Father Graves also intends to see the chairman of the Salt Lake Chamber of Commerce and ask him to secure the co-operation of the Chamber in a petition to the Legislature for the same praiseworthy object.

We earnestly wish the silk enterprise a success. Although in years, Father Graves is at home in the silk business, and it is his greatest desire to see the industry permanently established, and we have no doubt but what he will be gratified, and meet with success in his visit to Salt Lake.

On December 5, 1887, when Mrs. Eliza R. Snow Smith died at Salt Lake City, the sericulturists of Utah lost a faithful supporter.

Father Graves was one of the most persistent of the Utah County group and was not willing to let sericulture die out. He tried to get

the Division of Entomology of the United States Department of Agriculture interested in Utah sericulture but received only polite replies of regret that Utah was "so far removed from Washington." (8, Mar. 21, 1889)

On March 21, 1889, he addressed the people of Utah through the newspapers. The message read:

Some of those who have been previously engaged in the raising of silk worms but have become tired of doing so, and thinking they do not understand the offers made by the Department of Agriculture (\$20,000 having been appropriated for the encouragement of the silk industry) have offered to distribute silkworm eggs, and after the cocoons have been raised to purchase the same at the market price. I would ask those who feel inclined to engage in the above industry to let me know at an early date the quantity of eggs they wish to have. I have made application for one and a half pounds of eggs, which will be distributed free. Applicants will be required to send an addressed envelope for the same. . . . (8, Mar. 21, 1889)

A Chicago publication (Utah, Her Cities Towns and Resources, edited by Manley and Litteral Publishers) written about 1892 claims that a thriving silk factory existed at the time in Salt Lake City:

Salt Lake is the location of a number of industries that rank with the best in the land, and among them the Silk Manufacturing establishment of John Lyle, located at 54 South West Temple St., stands preeminent. J. L. Chalmers founded the enterprise in 1881 [1883], "for the manufacture of silk products, such as handkerchiefs, ribbons, dress goods, etc. He was succeeded by Mr. Lyle and the industry has had a remarkable run of success since the latter took charge in 1891. His plant is the most perfect and complete of any in the West having one plain and three Jacquard looms, with approved working and winding appliances, together with all the necessary paraphernalia for the successful carrying on of the business. Mr. Lyle manufactures several thousand handkerchiefs per year, and does a business of \$500 or \$600 per month. The thread used in the factory was originally imported from China and Japan, but is now obtained from New York. Among the unique designs of handkerchiefs manufactured is one with the Temple, Assembly Hall and Tabernacle, woven in the corner, unequalled as souvenirs with visitors to Salt Lake and the public. He also manufactures silk book-marks with a portrait of Brigham Young, likewise valuable as a memento

of a visit to the City of Zion. Mr. Lyle has been a resident of Salt Lake for three years and is one of its best and most favorably known business men. . . . (19:87)

August 9, 1892, the Utah County Silk Association hired a Miss Schoenfeldt to teach silk reeling to a class of young women in Provo and the Utah Silk Association advertised for cocoons to be reeled on shares. (8, Aug. 9, 1892) Prizes continued to encourage Utah silk and silk products at the Territorial and County fairs, and the various silk associations throughout the state continued to function. No record has been found to indicate the quantity of silk being produced at that time. The fact that silk was still being grown and processed into clothing in the homes would have made an estimate difficult.

NEW INTEREST IN SERICULTURE

The World's Columbian Exposition in 1893 stirred the waning interest in sericulture in Utah. The Womans Exponent for February 1894 gives an account of the circumstances which brought it about:

When the Board of Lady Managers sent an invitation to the women of Utah, desiring them to contribute something to the decoration of the women's building at the World's Fair. . . it was decided that nothing would be more representative of the thrift and industry of the Territory and so entirely woman's work as a pair of home-raised silk portiers, the design to be the Segoe Lily (the floral emblem of Utah) designed and embroidered by our own ladies.

The portiers. . . were received with profound surprise, it not having been known that such a quality of silk could be raised in America. Mrs. Margaret B. Salisbury, national commissioner from Utah, was asked if Utah could make an exhibit of silk, which might lead to the encouragement of sericulture in the United States, if an appropriation could be obtained from Congress. The money being procured, the offer was accepted, although the Fair was then open. As no silk had been raised for four years this was no easy task at home, yet we succeeded in collecting a number of silk dresses, silk shawls, scarfs, fringes, hosiery, knitting and sewing silk and twists, a quantity of reeled silk and cocoons, these, with the portiers, made our cases both artistic and interesting. . . . This exhibit attracted a great deal of attention, and. . . was prominently mentioned as one of the most interesting exhibits in the woman's building. . . .

Our silk was examined by a committee of Japanese under the Department of Manufacture, and awarded a medal and a diploma, and under the Department of Agriculture by American experts, who also awarded it a medal and diploma.

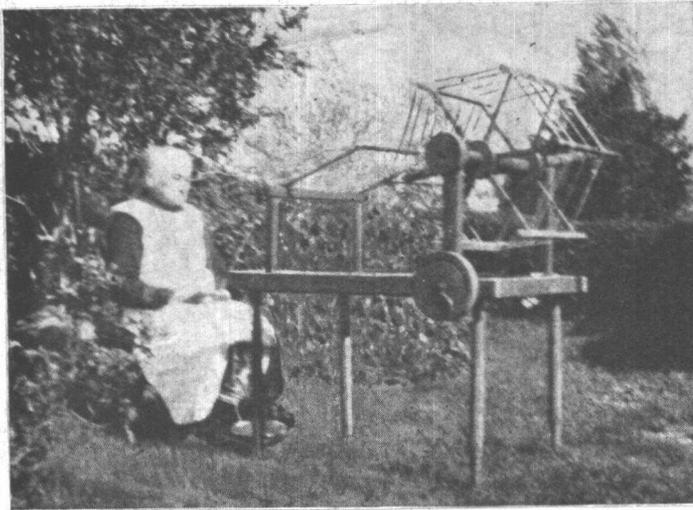
The portiers of the Utah Exhibit are now in possession of the Daughters of Utah Pioneers at the Utah State Capitol Building. The other exhibit was made up of articles collected throughout the Territory for the occasion*. Mrs. Margaret C. Caine, Mrs. Zina D. Young, Mrs. E. C. Allen,

*See "Utah At The World's Columbian Exposition."

Mrs. Emmeline B. Wells, and Mrs. C. W. Bennett were the committee selected to assist Mrs. Margaret B. Salisbury. The Utah County Silk Association contributed a sixteen-foot American Flag woven by Mrs. Sarah Saunders, of locally produced silk dyed by George B. Smart at the Provo Woolen Mills. The flag now hangs in a hermetically-sealed glass case in the Memorial Building in Provo. Special furniture of hand-carved native wood was made for the exhibit and upholstered in sage green silk, brocaded in a sage design. Several of the women who assisted with the exhibit wore "home-spun silk dresses." Mrs. Zina D. Young, Mrs. Emmeline B. Wells, and Mrs. Young's daughter Zina (Card Young) all had dresses made of native silk. Mrs. Young's dress is now in the possession of her granddaughter Mrs. Zina ^{this one correct} (Card) Brown. Mrs. Eliza Forsgren of Brigham City was sent to Chicago to demonstrate the work of silk making in Utah. "She was gone three months--from June first to October first. Besides her expenses she received a salary of thirty dollars per month." (6:72 footnote)

In 1895 Mrs. Emmeline B. Wells visited Washington in the interest of the silk industry and was very favorably received. At the National Council of Women she read a paper giving a brief history of sericulture in Utah and at Atlanta spoke to the Women's Board of Managers of the Atlantic Fair." These invitations came about largely because of the World's Fair of 1893. (21, Jan. 1918)

Susan B. Anthony visited Utah in May 1895 in the interest of woman suffrage and was so well received by the women of Utah that they presented her with a dress made of native silk. She prized the dress and "continued during her life to cherish a deep personal friendship for a number of Mormon women." (3:66, 71)



ELIZA FORSGREN AT HER SILK REEL
She demonstrated reeling, spinning,
weaving at Columbian Exposition, Chi-
cago, 1893.



Margaret A. Gain
Secretary, Utah
Silk Commission



MISS SOPHIA PACKARD
of
Salt Lake City, Utah
Wearing Her Lovely
Black Dress for which
She Raised the Silk,
Reeled the Yarn, and
Wove the Fabric.



Mrs. Emmeline B. Wells
in her home-spun silk
dress when she was 80
years old.

STATE SUPPORT

January 4, 1896, Utah was granted her long-sought statehood. When the first State Legislature met in 1897 a bill was passed providing for a Silk Commission fulfilling a long-time ambition of Father Daniel Graves who had advocated such an appropriation for years. Mrs. Zina D. Young was selected to head the Commission and the other members were Ann C. Woodbury of St. George, Elizabeth C. Packard of Springville, Isabella E. Bennett of Salt Lake City, and Margaret A. Gaine of Logan. The bill provided for a \$2,000 appropriation and up to 25¢ per pound bounty on all cocoons raised in the state.

In 1897 and 1898, 4,769 pounds of cocoons were produced. In 1900 the First Biennial Report of the Utah Silk Commission was published. It indicated a vigorous campaign by the Commission in the interest of sericulture. The financial report shows the following disbursements:

To Silkworm eggs distributed free in Utah.....	\$ 590.00
To Mulberry seeds distributed free in Utah.....	13.50
To Expenses of Utah Silk Commission incurred within the state.....	459.35
To Instruction in reeling and production.....	506.50
To Postage and Express.....	77.00
To Typewriting.....	67.75
To Printing.....	43.80
To Notary fees.....	32.25
To Experimental work done.....	132.55
To Freight and drayage.....	7.60
To Office expense and furnishings.....	67.70
Total	<u>\$2,000.00</u>

The report showed that 7,493 pounds of cocoons were produced in the two year period and bounty was paid by the State Auditor, according to the quality of the cocoons designated as poor, medium, good, and very good. Twenty per cent of the cocoons were classed as good in 1897 and 1898, while in 1899 and 1900 50 per cent were good and some were very good. It was thought the quality of cocoons would have been higher

had a salt storm not destroyed most of the 1900 crop in Box Elder County. That county was one of the heaviest producers in 1900.

Silk cocoons were produced during that period in Cache, Box Elder, Weber, Davis, Salt Lake, Tooele, Utah, Sanpete, Emery, Grand, Kane, Sevier, Wayne, and Washington Counties and possibly in Uinta County, although no report was made from that section. About 37,500 new mulberry trees were planted during the two-year period. Nine classes in reeling were taught in various sections of the state. Five hundred pamphlets of instruction on sericulture were issued on request from the growers. One hundred six meetings were held to instruct in sericulture throughout the state, and 323 letters were written to people in the state. Forty-two articles were written and published to disseminate information and extend interest in sericulture.

The report also stated that many letters had been received and answered from people outside the state and a representative from the United States Department of Agriculture had paid a visit to Utah. He was interested in the venture and "profuse in his congratulations." He had expressed his opinion that in spite of the many failures, sericulture would one day succeed in the United States. Utah he felt was succeeding where others had failed in reeling silk. (Silk reeling had met with opposition in the state especially in localities where silk had been produced in earlier years as reeling required special skill and training). Some of the silk was sent east to be dyed and cleaned and then was returned to Utah for weaving.

The Commission took charge of arranging exhibits at the State fairs in which seven counties participated. Cocoons, reeled and spun yarn, lace, and about 500 yards of silk cloth produced within the state were exhibited.

Mrs. Margaret Caine was invited to speak on silk culture at the International Council of Women in London under the department of Industrial Arts. She accepted the invitation and was especially pleased over the courtesy shown to her because of the interest in the Utah industry. She cited the Liberty Silk Company and mentioned that others prominently engaged in silk manufacture in London made it possible for her to inspect some of the largest silk factories in England.

The committee recommended that work be continued along the same lines and requested \$1200 for a full-time secretary and an increase in the annual appropriation. The increase was granted. (52)

When the Second Biennial Report was printed, in 1902, it showed the following disbursements:

To Silkworm eggs distributed free in Utah.....	\$ 652.00
To Expenses of Utah Silk Commission incurred within the state.....	294.00
To Instruction in reeling and production.....	1516.00
To Experimental work.....	189.00
To Office expense and furnishings.....	161.65
To Typewriting.....	42.25
To Notary fees.....	33.75
To Express, freight and drayage.....	27.30
To Postage.....	58.85
To Printing.....	22.65
Total	<u>\$3,000.00</u>

Production for 1901 and 1902 had decreased over a thousand pounds from the previous report. Bounty was paid for 6,479 pounds of cocoons. Heavy frost on the first of July had killed leaves and damaged worms in 1901. In 1902 extensive smallpox fumigation had killed many silk worms, but the people were anxious to try again.

A shortage existed in good size mulberry trees and requests had been received for the commission to take action, but it was felt that it was better to leave that to people who were in the nursery business.

Some experimental work was begun under the direction of Professor Widtsoe at the Utah State Agricultural College. Direct instruction on raising silk had continued and there were 16 classes conducted in silk reeling. Fair exhibits had also continued. It had been difficult to make people understand that the present project was not directed toward manufacture but was strictly for "agricultural production."

One hundred seventy-six letters had been received from people outside the state asking for information and an outline of the work being done in Utah. The Commission noted that others were worried about the effects of manufacturing and tariff but "we feel that these are matters that will adjust themselves in the future and from our experience all that is necessary is to produce a first quality of reeled silk and there will be plenty of room for it. Newspaper mention has already been made of ribbon which was manufactured from Utah silk by Johnson, Cowden and Company. This very reliable firm was greatly surprised at the quality and reeling of the silk forwarded to them." The silk had not been specially prepared. (33)

Mrs. Zina D. Young, so long a faithful worker and the leading figure in the silk industry in Utah, died August 28, 1901, at the age of eighty. She also held the position of General President of the Relief Society of the Church of Jesus Christ of Latter Day Saints at the time of her death. She had held that position since the death of Eliza R. Snow in 1882. She was replaced as President of the Silk Commission by Mrs. Elizabeth C. Peckard of Springville. Maria E. Zundel of Willard replaced Mrs. Peckard as Second Vice-president and Rachel Siegel replaced Isabella E. Bennett as Treasurer. The women with Ann C. Woodbury and Margaret Caine constituted the board in 1902 and for 1903 and 1904 as well.

The Third Biennial Report for 1903 and 1904 showed a \$3,000 disbursement as follows:

To Silkworm eggs distributed free.....	\$ 589.00
To Instructions in reeling and production....	1,123.90
To Expenses of Utah Silk Commission.....	188.00
To Experimental work done.....	50.15
To Office expense and rent.....	324.00
To Typewriting.....	48.15
To Notary fees.....	8.00
To Express and drayage.....	52.85
To Postage.....	65.35
To Printing.....	21.15
To Cold storage for eggs.....	18.00
Total	<u>\$3,000.00</u>

Bounty was paid for 8,647 pounds of cocoons, the largest quantity ever produced within the state which could be estimated. Even so, there had been salt storms, fumigation, and late frost to contend with.

Mrs. Siegel was visiting in the East in 1903 and made a trip to Washington. As a result of her trip, several members of the Department of Agriculture paid a visit to Utah during 1904 "for the purpose of thoroughly understanding the lines of work which have been adopted by the Utah Silk Commission. In every instance these gentlemen express great surprise at the work really accomplished and highly commend the methods employed."

It would be well to explain that the Commission followed very much the same pattern of promotion as had been followed in the past. The church auxiliary organizations: The Relief Society which included all the women, the Young Ladies Mutual Improvement Association which included the young girls, and the Primary which included the children, were the groups to become interested and encourage their members to participate in sericulture. Many women who were children at that time tell stories today of how they fed silkworms in their homes (often in the attic) or at some neighbor's house. Always they recall the noise of the worms eating the mulberry leaves and the quantities of leaves they carried

to feed the worms. They remember having silkworm eggs distributed to them at primary, or if they were older, at M. I. A. (Mutual Improvement Association). Some of the older women recall their experience in reeling silk and some of the silk of that period still exists in the form of skeins or shawls, handkerchiefs, scarfs, waists, and dresses. In some of these, the fine quality of the silk is most evident. Black silk dresses worn for years and stored in chests for many more years have withstood the time without splitting. These articles are slowly finding their way into the museums as their worth is recognized and it is hoped that none will go unrecognized.

The Third Biennial Report goes on to say:

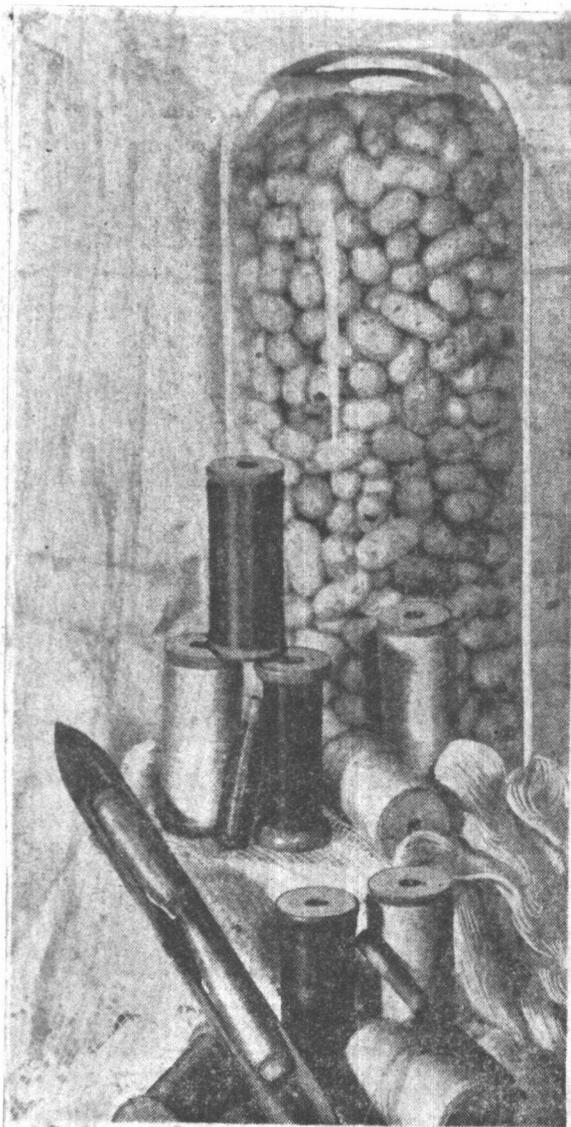
Mr. Oliver at the head of the Department of Horticulture, having already published a pamphlet on worm food plants, was delighted with many points of information which he received and has promised to carry on a line of experiments, the result of which will be published for the benefit of those interested in raising silk. Two thousand copies of Mr. Oliver's pamphlets have been received and distributed among silk growers. In the spring of 1904, the commission was notified by Secy. Wilson that he could furnish the commission, if desired, with a quantity of a very choice variety of young mulberry trees and grafts imported from Italy. This offer was immediately accepted, and notice published in the papers throughout the state requesting that those desiring to obtain such trees and grafts to make application direct to the secretary of the commission with the result that the applications which came in for such trees exceeded several times the number sent from Washington. The department at Washington with a view of encouraging silk culture have revived their plan of buying cocoons. Quite a number of Utah people sent their cocoons to Washington. Many of the cocoons thus sent were not considered by the commission as being particularly good, yet they were extremely satisfactory to the Department in Washington, and the people received a higher price for them than had been originally offered. . . . With a view of doing everything possible to advance interests of Utah have urgently requested that the department make provision for cocoons raised in Utah purchased by the government be reeled here under the supervision of our commission. . . . Up to the present time the production of silk in this state has depended wholly upon trees planted many years ago. Now new growth should spur production.

The commission has exhibited at each of the state fairs. . .and are particularly pleased to have many of the members of the last Legislature express their gratification in what we had accomplished and their satisfaction at having supported our cause. We were very anxious to have an active exhibit. . .at the St. Louis fair, feeling our state owed it to the government to show something of what we have achieved after it had met the expense of the exhibit of Utah silk at the Chicago fair, but funds seemed to be too limited. However a few small cases of silk were taken with the other agricultural products and we were informed received a great deal of attention. The lady having charge of the exhibit wrote asking if we could not send something more to them as she felt that an exhibit which attracted so much attention should be more extensive.
(34)

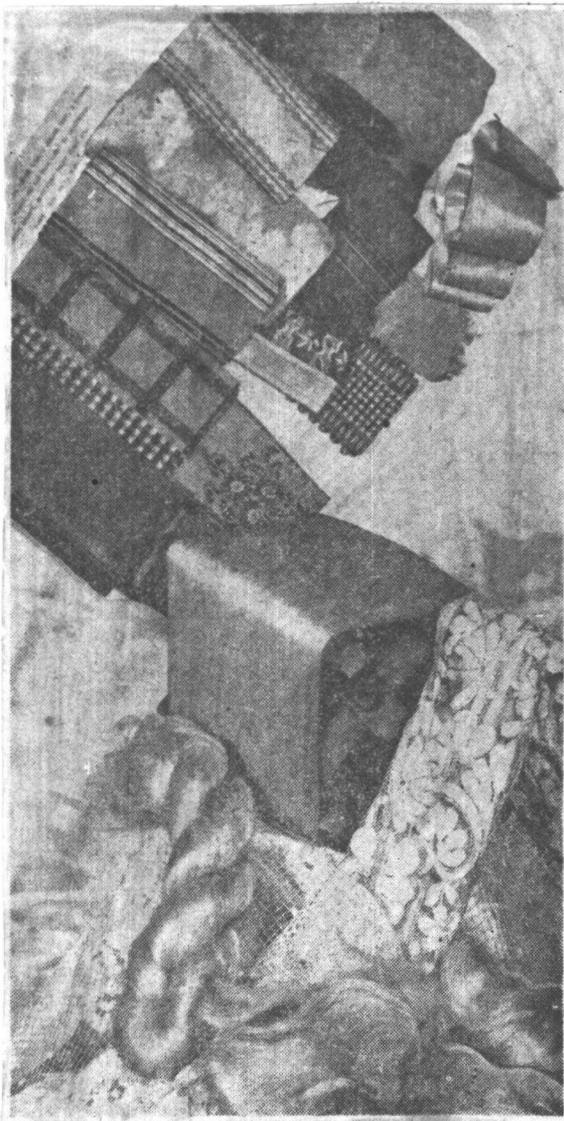
The Commission had no doubt that the silk industry would continue to grow if the "labors of the Commission as now carried on are continued." But the Utah State Legislature of 1905 did not see fit to continue the appropriation for the Silk Commission and the bill was repealed.

That repeal was a death blow to sericulture in Utah. Production halted, County Silk Associations were dissolved in 1906, and except for a very few individual growers no more silk was produced after a half century of most unique industrial promotion.

Mulberry trees still stand in almost every community in Utah and still drop their black or white berries to clutter the ground each year. Some old timers are ready to fight anyone who tries to cut them down. One woman at Rockville stood off workmen with a rifle to prevent them from cutting down the eight trees fronting her property when they were trying to widen the road to Zion's Canyon, in 1940.



A jar of peanut-shaped silk cocoons and spools of Utah-made silk thread are among other relics related to the silk industry collected by Daughters of the Pioneers.



Raw silk, lace, and ribbons made in Utah of native silk.

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