# CREWEL EMBROIDERY OF COLONIAL NEW ENGLAND AND THE ENVIRONMENTAL INFLUENCES

Thesis for the Degree of M. A. MICHIGAN STATE UNIVERSITY MARY LYNNE RICHARDS 1975

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#### ABSTRACT

## CREWEL EMBROIDERY OF COLONIAL NEW ENGLAND

#### AND THE ENVIRONMENTAL INFLUENCES

#### By

#### Mary Lynne Richards

The purposes of this study were: 1) to describe the characteristic colors, stitches and designs found in crewel embroidery created within New England during the colonial period, 2) to analyze these characteristics in relation to the dates and locations of the sample embroideries, and 3) to analyze the characteristic designs in relation to aspects of the colonial New England physical environment.

The sample was composed of fifty crewel embroidered items, believed to have been created between 1620 and 1781, within the geographic boundaries of New England. A data sheet, plus color slides or black and white sketches, were used to record information pertaining to each embroidered item.

For the purpose of describing the stitches, colors and designs found within the sample embroideries, the embroideries were cross tabulated into groups based upon use of these characteristics. Secondly, in order to determine possible relationships between the dates and locations of origin of the sample embroideries and the characteristics found within these embroideries, the characteristics were cross tallied by dates and locations of origin. Lastly, the shapes of the individual crewel embroidery motifs were compared with shapes found within the colonial physical environment, to determine whether the sample embroideries could be illustrative of that environment.

It was concluded that within colonial New England crewel embroideries: 1) the most frequently used colors were the primary hues of blue, red, and yellow, 2) the most frequently used stitches were the outline, economy and seed, and 3) the most popular designs were those depicting plant life.

A study of the average number of characteristics per embroidery, by date of origin, indicated that the crewel embroidery product was modified slightly from the first half of the designated period to the second half. The embroideries were worked with fewer colors, stitches and designs during the later period.

A study of the average number of characteristics per embroidery, by location of origin, indicated that the crewel embroidery product varied according to geographic origin. Those embroideries created within Main evidenced more different stitches per embroidered item, while those created within Vermont and Massachusetts used fewer stitches, but more colors and designs per embroidery.

Sixty-one of the eighty-one design motifs used within the sample embroideries were found to have shapes similar to objects available within the colonial New England physical environment.

The results of this study indicate that: 1) colonial New England crewel embroidery can be identified, having recognizable characteristics, 2) colonial crewel embroidery does vary according to date and geographic location of origin, and 3) there is a possible relationship between the designs used in colonial crewel and the physical environment in which it was created.

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#### AND THE ENVIRONMENTAL INFLUENCES

By

Mary Lynne Richards

### A THESIS

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MARY LYNNE RICHARDS

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#### INTRODUCTION

Throughout the ages, human beings have portrayed their conceptualized world in visual art forms, using the resources available within the environment. Through these portrayals, later generations are given clues concerning the environment of past cultures. Needlework is a unique art form in western civilizations, in that it is usually created by women. Unlike furniture, architecture, or decorative metalwork, which have been the works of men, embroidery can represent the interests, ideas, and abilities of women [Davis, 1969, p. 13].

During the early years of colonial America, very little time and very few materials were available for artistic expression. Crewel embroidery, which required only a needle, wool yarn, common homespun, and occasional leisure moments, was an accepted mode by which the women of the colonies expressed themselves, as well as introduced pleasing decoration into somewhat barren homes. Even as the colonies grew, and the materials for more grandiose art forms became available, crewel embroidery retained its popularity.

Most colonial New England households, especially those not located within the larger coastal communities, produced the materials needed for crewel embroidery. In the early years of the colonial period, when transportation facilities were poor, isolated farms and small communities were self-sufficient from necessity. Later, when commercial products became more abundant, home manufacturing still

flourished in response to highly inflated import prices and a shortage of products manufactured by local craftsmen [Bridenbaugh, 1961, p. 36].

This study is an investigation of the characteristics of colonial crewel embroidery, the most representative form of New England needlework, and its relationships to the colonial social and natural environments. It is hoped that this investigation, produced on the eve of the nation's second centennial, will elicit awareness and appreciation of the American needlework heritage, as well as increase understanding of the colonial environment as portrayed within the crewel embroideries of New England women.

#### DESCRIPTION OF COLONIAL NEW ENGLAND

This section is a brief description of colonial New England, and the role of textile production and needlework within this historic environment.

#### Historical Background

James I was King of England when the first New England settlement was established in Plymouth in 1620. King James was an advocate of divine right, arbitrary taxation, privileged elite, and a state controlled church, thereby being in opposition to many Protestant sectors within the English population [Dumond, 1942, p. 9].

Motivated by the threatening political-religious situation within England, a small group of Separatists (i.e., Pilgrims) purchased shares in the London Company, an organization granted land along the eastern coast of America by King James, and in 1620 sailed for America. Storms and strong winds blew the expedition off-course, and on December 21, 1620, the Pilgrims landed on the shore of Plymouth Bay, north of the land granted to the London Company. Plymouth Bay was under the jurisdiction of the Plymouth Company which had, until then, been unsuccessful in establishing a colony. However, in 1641, the Plymouth Company recognized the Pilgrim settlement and granted the colony title to the surrounding land [Dumond, 1942, pp. 10, 11].

In 1628, a group of English Puritans under the leadership of John Endicott, established the New England settlement of Salem, for

many of the same reasons as the Pilgrims. This settlement was created under the jurisdiction of the Governor and Company of Massachusetts Bay in New England, which had been granted the land by the Plymouth Company. Other members of the Massachusetts Bay Company followed this initial migration. As early as 1642, an estimated twenty-five thousand people were living within the territory granted to this organization [Dumond, 1942, p. 11].

By 1700, the population of the New England area had increased to 250,000 [Little, 1931, p. 51]. As the Massachusetts coast became more populated, many of these people began migrating either south into Rhode Island, or into the northern and western river valleys [Dumond, 1942, p. 15]. These migrations resulted in the formation of over 566 farming communities within the interior of New England, by the year 1776. Each of these communities consisted of a centralized green or common, a meeting house, resident artisans and outlying farms [Bridenbaugh, 1961, p. 38].

During the early years of the colonial period, most of the New England population was English. However, the 1700's saw a great influx of immigrants, many of whom were escaping the famine, taxation and political conflicts within Ulster [Little, 19<sup>2</sup>1, p. 58]. By the eve of the Revolution, the comparatively dense population of Massachusetts, Connecticut, and Rhode Island consisted of approximately seventy percent English, and thirty percent Scots, Scotch Irish, Celtic Irish, and a few Germans [Bridenbaugh, 1961, p. 33].

The natural environment of New England, which attracted so many of these new residents, was described by John Josselyn, who toured

the New England area during the 1600's:

The shore is Rockie, with high cliffs having a multitude of considerable Harbours. . .the Countrie within Rockie and mountanious, full of tall wood. . .between the mountains are many ample rich and pregnant valleys as ever eye beheld, beset on each side with variety of goodly Trees, the grass man-high unmowed, uneaten and uselesly withering; within these valleys are spacious lakes or ponds well stored with Fish and Beavers, the original of all the great Rivers in the Countrie. . .manifesting the goodness of the soil which is black, red-clay, gravel, sand, loam. . .[Josselyn, 1674, pp. 43, 44].

A majority of the New England settlers engaged in agriculture as their primary means of support. In addition to the grains, fruit and vegetables which were brought from England and Europe, the colonists also raised food plants native to North America and introduced by the Indians, such as corn, tomatoes, squash, pumpkins, melons, beans, and sweet potatoes. Imported cattle and sheep were also important agricultural commodities.

The seaports of New England were the first areas to evidence a notable division of labor and specialization of craftsmen. Having relatively dense populations (i.e., large markets), monetary wealth, and access to superior tools and materials, these cities were conducive to the commercial production of goods. As the colonial population continued to expand during the 1700's, doubling every twenty-five years, the demand for these commercial products increased [Bridenbaugh, 1961, pp. 64, 66].

The original purpose of American colonization had been to establish markets for English manufactured goods. Therefore, the English government perceived the beginnings of colonial manufacture to be a potential

threat to the economic stability of the mother-country. In the words of General Thomas Gage:

I think it would be for our interest to Keep the Settlers within reach of the Sea-Coast as long as we can; and to cramp their Trade as far as it can be done prudentially. Cities flourish and increase by extensive Trade, Artisans and Mechanicks of all sorts are drawn thither, who Teach all sorts of Handicraft work before unknown in the Country, and they soon come to make for themselves what they used to import. I have seen the Increase [Bridenbaugh, 1961, p. 64].

In response to the unwanted competition from New England artisans, the British government enacted various policies, designed to insure a competitive advantage for English goods, discourage colonial production, and/or compensate for any lost revenue. These actions, however, only resulted in retaliation and indignation from the American colonists.

Throughout New England, a popular movement spread, advocating a boycott of all English goods, in favor of colonial products. Organizations were formed, community pledges were signed, and sermons were preached extolling the virtues of labor. Indicative of this spirit, are the following lines, published within the <u>Massachusetts Gazette</u> on November 9, 1767:

Since money's so scarce and times growing worse, Strange things may soon hap and surprise you. First then throw aside your high top knots of pride Wear none but your own country linen. Of Economy boast. Let your pride be the most To show cloaths of your own make and spinning [Earle, 1895, p. 244].

On occasion, patriotic zeal became excessive and incidents involving confrontation resulted. The Boston 'tea-party' was one such occurrence.

Mrs. John Adams described another confrontation, this one involving colonial women, when she wrote:

There had been much rout and noise in the town for several weeks. It was rumored that an eminent stingy wealthy merchant (who is a bachelor) had a hogshead of coffee in his store which he refused to sell. . .under 6 shillings/lb. A number of females. . .assembled with a cart and trunks, marched down to the warehouse and demanded the keys which he refused to deliver. Upon which one of them seized him by his neck and tossed him into the cart. Upon his finding no quarter, he delivered the keys. . .they. . .opened the warehouse, hoisted out the coffee themselves, put it into the trunks, and drove off [Earle, 1895, pp. 249, 250].

Repeated confrontations such as the above eventually resulted in the presence of British troops within New England, and still further indignation and retaliation from the colonists. The outcome of these cyclical reactions and counter-reactions was the Revolutionary War, which did not culminate until the surrender of Cornwallis in 1781, signifying British defeat [Dumond, 1942, p. 102].

#### Textiles and Related Arts

The ships which brought the colonists to New England were small and crowded, limiting the amount of household goods which could be transported by each family. Any material goods in addition to family members and food, required an additional payment to the shipping company. For example, at a rate of "5 li. a person" an individual could have purchased passage to New England with the Winthrop expedition in 1630, along with five pounds of provisions, consisting of ". . .Salt Beefe, Porke, Salt Fish, Butter, Cheese, Pease Pottage, Water-grewell, and such kind of Victuals, with good Biskets, and sixe-shilling Beere." Any additional baggage, such as household goods, was transported at a rate of "4 li. a tonn." It is estimated that the average Puritan family, consisting of eight persons, with one ton of goods, paid an equivalent of approximatley one thousand dollars for passage within this expedition [Banks, 1930, pp. 26, 27].

Because transported household goods were usually limited to necessities, early colonial homes were at first rather devoid of decoration. In efforts to soften the barren interiors, women turned to textile production and decorative needlework.

During the early years of the colonial period, the women were limited to working with home-grown flax and wool. Nearly every household raised flax, and in many settlements its production was required by law. Within the Connecticut colony, the General Court ordered in 1640 that "every family within these plantations shall procure and plant this present year at lest one spoonful of English hempe seed in fruitful soyle at leaste a foot distant betwixt each seed." Sheep were also raised, but for their wool, rather than their meat. In 1644, the total number of sheep within New England was estimated to be three thousand [Stearns, n.d., pp. 11, 12].

The immigration of Scotch and Irish families during the 1700's greatly fostered the development of commercial textile production facilities within New England. Many of these people had been formerly employed in textile production, and had brought with them knowledge of the latest textile techniques being used within England and Europe [Earle, 1895, pp. 310, 311].

During the 1700's, women living within easy access of the larger New England seaports also had imported fabrics available to them,

although these materials were relatively high in price. Issues of the <u>Boston News-Letter</u> advertised imported linens from as far away as **Russia, Poland and Pomerania, as well as from Scotland [Stearns, n.d., p. 35].** 

The early homemade textiles were relatively plain and drab in color. A colonial formula for an especially long wearing fabric consisted of "one-third white wool, one-third black wool, and one-third scraps dyed with indigo." The resulting fabric was a dull brown, gray, or blue, commonly refered to as Puritan gray [Stearns, n.d., p. 11]. Eventually, attempts were made to alleviate the plainness of these fabrics with decorative needlework. The earliest types of needlework employed by colonial women were turkey-work and crewel embroidery.

Turkey-work, which was used within New England as early as 1650, was a technique which simulated the Oriental carpets popular in England. Yarns were inserted into a foundation fabric, tied into a Giordes knot, and cut to form a pile. This technique was used to produce materials for upholstery, table covers and pillows [Little, 1931, p. 171].

Crewel embroidery, which is decorative stitching upon the surface of a linen or cotton fabric using 2-ply wool yarn, was also employed to decorate household goods, in addition to dresses, petticoats and pockets. Estate inventories testify to the fact that crewel embroidery was practiced from the very early years of the colonial period. One such inventory, dated 1647, listed "a parcel of cruell thread," while another, dated 1654, included "cruell and fringe" [Stearns, n.d., p. 24]. The materials needed for crewel, initially made within the home, were commercially produced by the early 1700's. Newspaper advertisements

often referred to "a good assortment of cruells well shaded" or "Cruells, of all sorts" [Baker, 1966, p. 16].

Skill in needlework techniques was considered a valuable resource by colonial New England women. This belief was supported by the preachings of the Protestant religious leaders [Benson, 1935, p. 100] who based their sermons upon such biblical passages as Proverbs 31:10, 13 --"Who can find a virtuous woman? She seeketh wool, and flax, and worketh willingly with her hands." Thus, feminine education within colonial America greatly emphasized the domestic arts, and was only supplemented by rudimentary reading, writing, and arithmetic.

During the 1700's, dame schools and finishing schools began to be established within the larger cities of New England. These schools were formed for the purpose of instructing young women in such subjects as "Reading, Writing and English Grammar, Tambour, the agreeable Art of Embroidery, all kinds of Needlework, Millinery, making Gloves and making Lace, Net Work, and weaving Fringes, drawing flowers, Painting, Shell Work, Dancing and Playing the Guitar, with particular attention to Morals and Manners" [Davis, 1969, p. 23]. Dame schools were local day schools for girls up to age eight or ten, while finishing schools were boarding schools for young women. These schools, having predominantly needlework curriculums, represent one of the major means through which needlework patterns were transmitted [Harbeson, 1938, p. 113].

Another source of embroidery design was the printed pattern. Although there is no record of embroidery pattern books ever being published within colonial New England [Davis, 1969, p. 26], printed patterns from England may have been included within the merchandise

regularly shipped to Boston [Harbeson, 1938, p. 29]. By 1774, colonial women were receiving <u>The Lady's Magazine</u>, a periodical printed within England and shipped to the American colonies. Issues of this magazine included sketches which could be transferred to fabrics for embroidery. Stitch and color directions, however, were not included [Davis, 1969, p. 26]. Other printed pattern sources available within colonial New England included furniture design books, used in the production of Adams, Chippendale and Sheraton furniture [Harbeson, 1938, p. 113], and illustrated garden books [Davis, 1969, p. 22].

In the larger cities of New England, colonial women were occasionally able to purchase commercially stamped fabrics prepared for embroidery, or custom drawn paper patterns. Issues of early New England newspapers attest to the availability of both of these commodities [Stearns, n.d., p. 42; Dow, 1927, p. 274].

It is possible that colonial women also acquired embroidery patterns by copying the designs found upon painted or printed fabrics. Hand painted cloths were imported from India, China and Persia into England, and some of them eventually did reach the New England area. On February 11, 1711 the <u>Boston News-Letter</u> advertised "India Chints --To be sold by Mr. William Payne, at his house in Queen-street Boston . . .By Wholesale or Retale at Reasonable Rates" [Dow, 1927, p. 154]. In addition, French and English textile producers began imitating these fabrics, copying the designs and printing them with wood blocks or copperplate engravings [Davis, 1969, p. 29].

By the mid-1700's, the larger commerical areas of New England contained professional dye-houses, within which printed fabrics were

produced. The <u>Boston Gazette</u> advertised on June 16, 1735 that "Francis Gray, Calico Printer from Holland; Prints all sorts of Callicoes of several Colours to hold Washing. . . ." Similarly, the following advertisement was published within the May 13, 1773 issue of the <u>Boston</u> <u>News-Letter</u>: "To be Sold, very cheap for Cash, by the Person who Prints the dark Callicoes, an excellent Sett of Prints for the Same. The Person who has them to dispose of, would Instruct the Purchaser in the Use of them if required. Enquire of the Printer" [Dow, 1927, p. 258].

It was the increasing availability of such inexpensive printed fabrics that, in part, undermined the production of crewel embroidery, the original purpose of which had been to decorate plain fabrics. Alternative forms of needlework, frequently being the latest fads from England, superceded crewel near the end of the colonial period, and also contributed to its decline. In 1771, Elinor Druit professed to teach many of these new techniques, when she advertised her school ". . .at the House of Mr. William Pritchard, Cooper, near the Quaker Meeting House, Boston. . . ." Included within her curriculum were ". . .Point, Brussels, Dresden, Sprigging, Embroidery, Cat-Gut, Diaper, and all sorts of Darning, French Quilting, Marking, Plain Work and Knitting" [Dow, 1927, p. 276].

Following the Revolutionary War, women became increasingly involved in business and professional activities, and needlework, which required a more leisurely lifestyle, diminished in use. It was not until the late 1800's, when mechanization began recreating this necessary spare time, that interest in the American needlework heritage was revived [Harbeson, 1938, p. 152; Stearns, n.d., p. 26].

#### STATEMENT OF THE PROBLEM

Authors of popular needlework literature frequently describe a romantic picture in which an embroideress, looking at the world around her, deftly transfers what is perceived into representative needlework designs. This supposition, however, is usually based upon speculation [Davis, 1969, p. 15].

The purpose of this study was to investigate the relationships between needlework and the environment within which it is created, or more specifically, to:

- <u>describe</u> the stitches, colors and designs used <u>most frequently</u> within New England crewel embroideries created during the colonial period.
- <u>study</u> the colors, stitches, and designs of colonial crewel embroidery in relation to the <u>dates and geographic locations</u> of origin of the sample embroideries.
- 3. <u>compare</u> the colors and designs used within colonial crewel embroidery with the <u>physical and social environments</u> within New England during the colonial period.

In conjunction with the latter objective, the following hypothesis was formulated:

A comparison of colonial crewel embroidery designs with the New England colonial physical environment will show that a majority of these embroideries could illustrate the physical environment within which they were created.

#### Assumptions

1. Embroideries preserved within museums and historical sites represent motifs and materials typical of the given period.

2. Data corresponding with colonial embroideries exhibited within museums and historical sites, are reliable.

3. Primary sources, which pertain to colonial New England, are reliable. Secondary sources, which pertain to colonial New England and quote primary references, are accurate and reliable.

#### Definition of Terms

<u>Colonial period</u>: from the founding of the Plymouth Bay colony in 1620, until the surrender by Cornwallis in 1781.

<u>Crewel embroidery</u>: decorative embroidery done with wool yarn on cotton or linen.

Embroidery: the art of working ornamental surface designs with a needle and thread.

Environment: the aggregate of surrounding objects, conditions or influences.

<u>Natural environment</u>: the aggregate of surrounding objects, conditions, or influences resulting from plants, animals, and geographic features, free of human influence.

<u>Natural products</u>: objects resulting from plants, animals and geographic features, without prior human alteration.

<u>New England</u>: a geographic area in northeastern United States, consisting of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. <u>Physical environment</u>: the aggregate of surrounding objects, both man-made and natural.

<u>Social environment</u>: the aggregate of conditions and events pertaining to the life, welfare, and relations of human beings in a community.

Society: a body of individuals living as members of a community.

<u>Technology</u>: an invention, method, or process by which a social group provides its members with the material objects of their civilization.

#### PROCEDURE

The procedures used in the collection, description, and analysis of data pertaining to colonial American crewel embroideries and the colonial American social and natural environments, are described and explained within this section of the report.

#### Selection of the Embroideries for Study

Letters of inquiry were sent to the textile curators of major museums within northeastern United States, in order to ascertain the extent of the individual collections of colonial American crewel embroidery (see Appendix A). Those museums which reported to own large collections, were chosen as prospective sources of study. The number of these institutions was further reduced when consideration was given to geographic location, hours, and facilities. Subsequently, the crewel embroideries used within this study were those housed in the following:

- 1. Colonial Williamsburg, Williamsburg, Virginia
- 2. Essex Institute, Salem, Massachusetts
- 3. Historic Deerfield, Deerfield, Massachusetts
- 4. Jeremiah Lee Mansion, Marblehead, Massachusetts
- 5. Museum of Fine Arts, Boston, Massachusetts
- 6. Smithsonian Institute, Washington, D.C.

7. Wadsworth Atheneum, Hartford, Connecticut

The financial resources available for this investigation were limited, thereby reducing the amount of time which could be spent on

the data collection process. This limitation of time did not permit study of each of the above collections in its entirety. Therefore, the embroideries used in this investigation were those which were made available by the respective museums. These embroideries were chosen by the individual textile curators, as meeting the following criteria:

1. exhibited the characteristics of crewel embroidery

2. believed to have been created within New England

3. believed to have been created between 1620 and 1781.

A total of fifty-three colonial American crewel embroideries were studied during the data collection process. Of these, three were eliminated for lack of background information.

#### Data Collection

A data collection sheet was prepared, prior to the actual collection process, on which space was provided for all available information pertaining to where, when and how the embroideries and embroidered items were made, as well as by whom (see Figure 1).

Subsequently, for each of the crewel embroideries included within the sample, a data sheet was completed. These sheets were then filed alphabetically in a notebook, by type of item embroidered, for future reference. The information used to complete the data sheets was collected from museum records, as well as from personal study of the embroideries and embroidered items.

In addition, 35-millimeter color photographs of the total work and individual design motifs were taken when the museums allowed. The photographs of each embroidered item included:

## FIGURE 1

Data collection sheet, used to record

information pertaining to the sample embroideries.

mini n	D41-, D-11.			
	F11m K011:			
Date of work:	Exposure:			
Location of work:				
Worked by:				
Type of item embroidered:				
Size of item embroidered:				
Construction of item embroidered:				
Fabric content:	Fabric weave:			
Fabric source:				
Yarn content:	Ply:			
Yarn source:				
Yarn colors:				
Embroidery stitches:				
General description of design layout:				
Description of spacing and repeating patter	ns:			
Design source:				
Miscellaneous information:				
Source of documentation:				
Museum personnel:				
Item courtesy of:				
Date:				

- at least one photograph illustrating the arrangement of design motifs upon the total embroidered item
- at least one photograph of each different design motif found on any given embroidered item.

The photographs were made, using a Minolta SRT 101 camera, Kodak tungsten (3200 K) high speed ektachrome film and available light only. In instances of small design details, magnification lenses were attached, enabling photographs to be taken with a minimum distance of nine inches between the camera and the embroidered object.

Pencil sketches of design motifs were substituted for photographs in situations where photography was forbidden. (Photography was permitted at Essex Institute, Jeremiah Lee Mansion, Museum of Fine Arts, and Wadsworth Atheneum. Sketches were necessary at all other sites.) At least one sketch was made of each different design motif found on any given embroidered item. These sketches were filed with the corresponding data sheets.

Eventually, all design photographs and sketches were traced into black and white drawings, to facilitate categorization by shape, without the intervening influence of color.

## Description of Colonial Crewel Colors, Stitches and Designs Objective 1: to <u>describe</u> the colors, stitches and designs used <u>most frequently</u> in New England crewel embroideries created during the colonial period.

In order to describe the characteristics of colonial New England crewel embroideries, the sample embroideries were cross tabulated into

groups based upon the type of item embroidered, as well as the use of individual stitches, colors, and design motifs.

After the data collection process, a list was made of those types of items found to contain colonial crewel embroidery. The fifty sample embroideries were then tallied according to these specific items.

The divisions, pertaining to color of embroidery yarns, were made on the basis of the following primary, secondary and neutral hues:

- 1. black yarns
- 2. blue yarns
- 3. brown yarns
- 4. green yarns
- 5. orange yarns
- 6. purple yarns
- 7. red yarns
- 8. white yarns
- 9. yellow yarns

Following the recording of museum data, a list was made of all the different stitches used within the fifty embroideries (see Appendix B). The embroideries were then divided into categories, based upon the inclusion of these stitches. If an embroidery contained more than one stitch type, the embroidery was subsequently included in more than one category.

Likewise, a study of individual design motifs found on the sample embroideries resulted in the formation of design categories, based upon motif shape (i.e., the two-dimensional characteristics of a motif, as defined by its outline) (see Appendix C). The embroideries were then divided into the design categories. If an embroidery contained more than one design type, it was counted in more than one design category.

The above design categories were subsequently classified on the basis of the type of object being illustrated. The embroideries were then divided into these thematic classifications, to facilitate description of predominant design types.

#### Analysis of Colonial Crewel Characteristics

Objective 2: to <u>study</u> the colors, stitches, and designs of colonial crewel embroidery in relation to the <u>dates</u> <u>and geographic locations</u> of origin of the sample embroideries.

The characteristics (i.e., colors, stitches, and designs) used within colonial New England embroideries were cross tallied by the dates and locations of origin of the sample embroideries, in order to discover any areas of possible relationship. These comparisons were made, as follows:

- The stitches used on the sample embroideries were analyzed in relation to the dates of origin, to note any pattern of rising and falling popularity in stitches.
- 2. The stitches used on the sample embroideries were analyzed in relation to the geographic locations of origin, to note any possible relationship between stitches used and social group composition or communication.
- 3. The colors used on the sample embroideries were analyzed in relation to the dates of origin, to note any possible

relationship between the colors used and the availability of dyestuffs.

- 4. The colors used on the sample embroideries were analyzed in relation to the geographic location of origin, to note any possible relationship between the colors used and geographically limited availability of dyestuffs.
- 5. The designs used on the sample embroideries were analyzed in relation to the dates of origin, to note any pattern of rising or falling popularity in designs.
- 6. The designs used on the sample embroideries were analyzed in relation to the geographic locations of origin, to note any possible relationship between designs used and social group composition or communication.
- 7. The average number of stitches, colors and designs per embroidery, within each of the dates of origin categories, were compared, to note any variations in the colonial crewel product.
- 8. The average number of stitches, colors and designs per embroidery, within each of the geographic location of origin categories were compared, to note any variations in the colonial crewel product.

#### Comparison of Crewel Characteristics and Colonial Environments

Objective 3: to <u>compare</u> the colors and designs used within colonial crewel embroidery with the <u>physical and</u> <u>social environments</u> within New England during the colonial period. Colonial American crewel embroidery designs were thought to reflect the physical environment within which they were created. In order to analyze the validity of this belief, literature was surveyed pertaining to those physical aspects of the colonial environment illustrated most frequently in the embroideries.

Similarly, the colors used in colonial American crewel embroidery were thought to be representative of colonial technology, commerce and availability of natural products. Thus, literature concerning colonial technology, commerce or environmental dye sources was also examined.

The literature surveyed was that pertaining predominantly to the above topics, and in most cases, available in the Michigan State University Library. Except in situations involving lost volumes, an initial cursory examination was made of all available books and periodicals, concerning the above topics. Those publications which contained information supported by primary references, were usually chosen for further study. This type of reference was preferred to primary references, since it is usually composed of information obtained from numerous primary references. Thus, secondary references were considered to be the most efficient means of acquiring a broad understanding of colonial environments. In instances in which additional information was desired, beyond that available within the Michigan State University Library, the library interloan system was used.

Prior to surveying the above literature, an initial outline was prepared (see Figure 2). This outline listed colonial environmental topics to be researched, as determined by those colors and designs found to have been used within colonial New England crewel embroideries.

#### FIGURE 2

Initial outline used to guide environmental research.

- I. Colors
  - A. Domestic Dye Materials Available from Commerce.
    - 1. Importation
      - a. sources, and resultant colors
    - 2. Colonial Commerical Production
      - a. sources, and resultant colors
  - B. Dye Materials Available from the Natural Environment
  - C. Techniques Used in Domestic Dyeing Processes
- II. Designs
  - A. Animal Life
    - 1. Native species
    - 2. Introduced species
  - B. Plant Life
    - 1. Native species
    - 2. Introduced species
  - C. Man-Made Aspects of the Physical Environment
    - 1. Clothing
    - 2. Buildings
    - 3. Landscape cultivation

Each of the topics listed within the outline was used as a category heading, with the information acquired from each of the published sources sorted and filed under the appropriate headings. In each topical file, a separate information sheet was completed for each reference, recording the relevant information and bibliographical details. The files were arranged in alphabetical order.

Following the collection of environmental information, those designs found on the sample colonial embroideries were compared with data pertaining to similar physical aspects of the colonial environment. In like manner, the colors found upon the sample embroideries were compared to information pertaining to colonial dye technology, commerce and natural dye sources.

Based on the above, a written analysis was prepared, comparing the designs used within colonial New England crewel embroideries with related aspects of the colonial New England environment.

A comparison of the colors found on the sample embroideries, with colonial dye technology, commerce, and natural dye sources, was not prepared due to a lack of adequate data. Literature pertaining to colonial American dye sources and technology was limited, and the contents often based upon speculation. Examination of original dye manuals, which had been printed in England and may have been available to English colonists, yielded only those sources and techniques employed by commercial dyers. Similarly, a thorough comprehension of colonial commerical importation of dye materials would have necessitated the study of original shipping records, as indepth secondary sources did not appear to be available. Such an investigation was beyond the time and monetary limitations of this research.
#### RESULTS AND DISCUSSION

This section pertains to the descriptive characteristics of the fifty colonial American crewel embroideries, in relation to the first, second and third objectives. The initial discussion concerns those colors, stitches and designs used most frequently within the sample embroideries. This is followed by analyses of the above characteristics in relation to the dates and geographic locations or origin of the sample embroideries, and in the case of design motifs, in relation to the colonial American physical environment.

Description of Colonial Crewel Colors, Stitches and Designs

Objective 1: to <u>describe</u> the colors, stitches and designs used <u>most frequently</u> within New England crewel embroideries created during the colonial period.

For descriptive purposes, the fifty sample embroideries were initially tallied into groups, according to the type of item containing each embroidery. The results are shown within Table 1.

Note that household furnishings (i.e., coverlets, valances, curtains, bed sets, chair covers and pot holders) represent seventy-two percent of the fifty embroidered items, while clothing (i.e., petticoat borders, children's clothes, dresses, and pockets) represent only twentyfour percent of these items.

Frequency and percentage of types of items

embroidered, by fifty sample embroideries.

Items	Frequency $(n = 50)$	Percentage (n = 50)
Coverlets	18	36
Petticoat Borders, women's	6	12
Valances	6	12
Curtains	5	10
Bed Sets, complete	4	8
Chair Covers	2	4
Children's Clothes	2	4
Dresses, women's	2	4
Fragments	2	4
Pockets	2	4
Pot Holders	1	2
Total	50	100

## Colors

The fifty sample embroideries were tallied into color groups of primary, secondary and neutral hues. The results are shown within Table 2.

Frequency and percentage of color

use,	by	fifty	sample	embroid	leries.
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Colors	Frequency (n = 50)	Percentage (n = 50)
Blue	47	94
Red	41	82
Yellow	40	80
Green	39	78
Brown	33	66
White	33	66
Black	19	38
Orange	0	0
Purple	8	16

Primary hues (blue, red and yellow) are those colors, each of which comes from one dye source. Secondary hues are blends of two primary hues. The primary hues were those used most frequently in the sample embroideries.

Eight (sixteen percent) of the fifty embroideries contained monochromatic color schemes. The remaining forty-two embroideries (eightyfour percent) contained at least two or more hues. All of the monochromatic embroideries were worked in shades and/or tints of blue. Similarly, blue predominated in many of those embroideries which contained more than one color.

## Stitches

The sample embroideries were tallied according to the stitches used on each embroidered item, as shown within Table 3.

## TABLE 3

Frequency and percentage of stitch

use, by fifty sample embroideries.

Stitches	Frequency	Percentage
britches	(n = 50)	(n = 50)
Outline	48	96
Economy	42	84
Seed	24	48
Herringbone	18	36
Satin	18	36
Cross	17	34
French Knot	16	32
Buttonhole	15	30
Straight	15	30
Bullion Knot	11	22
Running	7	14
Star	5	10
Chain	4	8
Feather	3	6
Tear	2	4
Back	1	2
Split	1	2

The nature of embroidery stitches permits them to be grouped in three classifications: 1) those which fill design areas with solid color, 2) those which fill design areas with partial, intermittent color, and 3) those which produce narrow lines of color. All embroidery stitches can be placed within one of these categories, although some stitches fit into more than one, depending upon the compactness with which the stitch is executed.

It would, therefore, be possible to execute a complete embroidery (i.e., one having areas of solid color, partial color, and narrow lines) using a maximum of one stitch, varied in compactness. It is interesting to note that the three stitches used most frequently in the sample embroideries fulfill the above three needs. In other words, the economy stitch was used to fill design areas with solid color, while the seed stitch supplied partial color, as regulated by the spacing of the individual "seeds." The outline stitch was used to produce narrow lines. Thus, a complete colonial embroidery could have been created using only these three stitches.

#### Designs

Eighty-one different design motifs were found within the fifty sample embroideries. (For illustrations, see Appendix C.) These motifs were subdivided into the following design themes:

- 1. Animal Life
- 2. Plant Life
  - a. Flowers
  - b. Leaves

- c. Nuts, Berries, Fruit and Seeds
- d. Trees
- 3. Miscellaneous

The fifty embroideries were then tallied within the preceding subdivided design themes (Table 4).

#### TABLE 4

#### Frequency and percentage of major

Frequency Percentage Designs (n = 50)(n = 50)Animal Life 16 32 Plant Life 50 100 Flowers 49 98 42 Leaves 84 Nuts, Berries, Fruit and Seeds 48 96 Trees 7 14 8 **Miscellaneous** 4

design theme use, by fifty sample embroideries.

The animal motif found most frequently on the sample embroideries was the bird design (design 1). With the exception of the bird motif, animal designs were used to create landscape embroideries, as opposed to the scrolling random embroidery designs which employed only floral motifs. These landscapes were most frequently used on petticoat borders, thereby creating a continuous mural which encircled the hem of the garment. Figure 3 illustrates a portion of such an embroidery.



FIGURE 3

The most frequently used flower motifs were the tulip (design 11), and the rose (design 12), while the most common leaves were either the acanthus leaf (design 34) or a teardrop shaped leaf (design 33). (For illus trations, see Appendix C.) An elongated cluster of berries (design 47) was the most used design from the nuts, berries, fruit and seeds category. The most popular tree type was one with visible trunk and spreading limbs, containing individually executed leaves (design 73).

The number of individual motifs per thematic design subdivision were counted, and the percentage of the eighty-one motifs illustrating each subdivision was calculated, as shown in Table 5.

## TABLE 5

#### Individual motifs illustrating major design

themes,	by	frequency	and	percentage	of	eigl	hty-one	motif	s.
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Design Themes	Frequency	Percentage
-	$(n = \delta I)$	(n = 81)
Animal Life	10	12
Plant Life	68	84
Flowers	22	27
Leaves	14	17
Nuts, Berries,		
Fruit and Seeds	26	32
Trees	6	7
Miscellaneous	3	4

Comparison of the percentages of embroideries depicting specific design themes (Table 4) with the percentages of motifs illustrating these design themes (Table 5) suggests a correlation between the two. The highest percentages of both embroideries and motifs were within the plant life category, while the lowest percentages were within the miscellaneous category.

Subsequent analysis, using Spearman's Rank Difference Correlation, indicated that the correlation between the percentage of embroideries and the percentage of motifs, per design theme, was significant beyond the .01 level [Guilford, 1956, pp. 286-288] (See Table 6).

## TABLE 6

Comparison of percentages of embroideries

Design Themes	Rank Order of Percent of Embroideries	Rank Order of Percent of Motifs	
Animal Life	5	5	
Plant Life	1	1	
Flowers	2	3	
Leaves	4	4	
Nuts, Berries, Fruit and Seeds	3	2	
Trees	6	6	
Miscellaneous	7	7	

and percentages of motifs, per design theme.\*

\*Spearman r = .965, significant beyond the .01 level.

If the fifty sample embroideries analyzed in this section are in fact representative, then colonial New England crewel embroidery, which was used to decorate household and clothing items, can be said to possess recognizable characteristics. In other words, colonial crewel most often used: 1) the primary hues of red, yellow, and blue, 2) the outline, economy and seed stitches, and 3) plant life design motifs.

## Analysis of Colonial Crewel Characteristics

Objective 2: to <u>study</u> the colors, stitches, and designs of colonial crewel embroidery in relation to the <u>dates and geogra</u>phic locations of origin of the sample embroideries.

The fifty sample embroideries were initially subdivided into groups by date of origin and by geographic location of origin, as shown in Tables 7 and 8.

#### TABLE 7

Frequency and percentage of origin per forty-year time period, by fifty sample embroideries.

Dates	Frequency $(n = 50)$	Percentage (n = 50)
1620 - 1660	0	0
1661 - 1700	0	0
1701 - 1740	13	26
1741 - 1781	22	44
Colonial American, date unknown	15	30
Total	50	100

## Frequency and percentage of origin per

geographic location, by fifty sample embroideries.

Locat ions	Frequency $(n = 50)$	Percentage (n = 50)
Connecticut	5	10
Maine	2	4
Massachusetts	14	28
New Hampshire	1	2
Rhode Island	0	0
Vermont	1	2
Colonial New England, location unknown	27	54
Total	50	100

The above data showed that none of the sample embroideries were created during the years of 1620 to 1700, nor created in Rhode Island during the colonial period. For this reason, these temporal and geographic categories were not included in the forthcoming analyses of embroidery colors, stitches and designs. In addition, only one sample embroidery originated in New Hampshire and only one embroidery originated in Vermont. Therefore, these two geographic categories were used only for comparison of average characteristics per embroidery (Tables 15 and 16), and were excluded from further analysis.

Similarly, those sample embroideries with unknown dates were not included in the analyses of embroidery characteristics to dates of origin, and those embroideries with unknown locations were not included in the analyses of characteristics to geographic locations of origin.

As a result of the above exclusions, thirty-five embroideries were analyzed by date of origin, and twenty-one embroideries were analyzed by geographic location of origin.

## Dates of Origin

The average number of different colors, stitches, and designs used per embroidery, within each historic time period, were calculated. The results were as shown in Table 9.

## TABLE 9

Average number of colors, stitches and designs per embroidery, by dates of origin of the sample embroideries.

1701 - 1740 <u>M</u>	1741 - 1781 M
5.76	5.09
5.08	4.95
12.08	10.32
	1701 - 1740 <u>M</u> 5.76 5.08 12.08

The crewel embroidery product created during the latter half of the colonial period may have been less complicated than that created during the initial years. Of the embroideries studied, those dating from 1741 to 1781, as seen in Table 9, used fewer colors, stitches and design motifs. Since the number of colors, stitches, and designs used within an embroidery may be, in part, related to the size of the embroidered item (i.e., small items have less fabric space available for variety), the types of items embroidered were tallied by dates of origin for further analysis (Table 10).

#### TABLE 10

Frequency and percentage of types of items

embroidered by dates of origin of the sample embroideries.

Items	1701 (n =	1701 - 1740 (n = 13)		1741 - 1781 (n = 22)	
	f	%	f	%	
Bed Sets, complete	0	0	3	14	3
Chair Covers	1	8	1	5	2
Children's Clothes	1	8	0	0	1
Coverlets	4	31	10	45	14
Curtains	3	23	0	0	3
Dresses, women's	1	8	0	0	1
Petticoat Borders, women's	0	0	4	18	4
Pockets	2	15	0	0	2
Valances	1	8	4	18	5

Even though the earlier embroideries contained more stitches, colors, and designs per embroidery, the items embroidered were, for the most part, smaller than those of the later period. Note that all of the complete bed sets, those items providing the largest amount of fabric space for embroidery, were created during the later period, which evidenced use of fewer stitches, colors and designs. Thus, the figures in Table 10 strengthen the conclusion that the crewel embroidery product created during the later half of the colonial period was less complicated than that created during the initial years.

The colors, stitches and designs found on the sample embroideries were also tallied by dates of origin of the sample embroideries, as shown in Tables 11, 12, and 13.

## TABLE 11

## Frequency and percentage of color use,

by dates of origin of the sample embroideries.

	1701	- 1740	1741 -	- 1781	Total
Colors	(n =	(n = 13)		22)	(n = 35)
	f	%	f	%	
Blue	13	100	20	91	33
Black	5	38	7	32	12
Brown	10	77	14	64	24
Green	11	85	17	77	28
Purple	2	15	4	18	6
Red	12	92	16	73	28
White	10	77	12	55	22
Yellow	11	85	17	77	28
Monochromatic Blue	1	8	5	23	6

Assuming that the thirty-five embroideries analyzed in Table 11 are in fact representative, during the colonial period the use of brown, red and white decreased the most from the first historic period to the second. The use of white yarns declined by twenty percentage points, the use of red yarns declined by nineteen percentage points, while the frequency of brown yarns declined by thirteen percentage points. The use of black yarns decreased the least between the two time periods, dropping by only six percentage points.

The use of purple yarns and monochromatic color schemes increased from the first half of the colonial period to the second. The frequency of purple increased by only three percentage points, while monochromatic blue embroideries gained by fifteen percentage points.

Thus, while knowledge and commercial availability of natural dyestuffs increased during the colonial period, use of these materials declined. This would indicate that little, if any, relationship exists between the use and availability of dye materials.

Seven of the stitches found on the sample embroideries, declined in use from the first historic time period to the second (Table 12). The greatest decreases were in the use of the French knot, declining by nineteen percentage points, and the chain stitch, declining eighteen percentage points. (For illustrations, see Appendix B.)

Nine stitches increased in use from the first historic time period to the second. The greatest increases were in the use of the seed stitch, gaining twenty-two percentage points, and the running and herringbone stitches, each gaining ten percentage points.

While the outline and economy stitches remained the two most popular stitches from 1701 to 1781, the third most popular stitch changed from the

Frequency and percentage of stitch use,

by dates of origin of the sample embroideries.

	1701	- 1740	1741	- 1781	Total
Stitches	(n =	13)	(n =	22)	(n = 35)
	f	%	f	%	
Back	0	0	0	0	0
Bullion Knot	3	23	3	14	6
Buttonhole	5	38	6	27	11
Chain	3	23	1	5	4
Cross	5	38	9	41	14
Economy	11	85	16	73	27
Feather	0	0	2	9	2
French Knot	6	46	6	27	12
Herringbone	4	31	9	41	13
Outline	12	92	21	95	33
Running	1	8	4	18	5
Satin	5	38	9	41	14
Seed	3	23	12	55	15
Split	0	0	1	5	1
Star	3	23	2	9	5
Straight	4	31	7	32	11
Tear	1	8	1	5	2

French knot in 1701-1740, to the seed stitch in 1741-1781. Both the French knot and the seed stitch produce intermittent color within a design area, dependent upon the spacing of the knots or "seeds." However, the seed stitch requires fewer steps in its production, thereby producing the desired effect, using less time and skill. (See Appendix B.)

Animal designs are usually more difficult to draw realistically, than are plant forms. Thus, the increased use of animal motifs during the 1700's (Table 13) is suggestive of a greater availability of commercial patterns, professional pattern drawers, or art education. While there is no indication that pattern books were published within colonial New England, some may have been imported from Europe [Davis, 1969, p. 26].

### TABLE 13

Frequency and percentage of design use,

by dates of origin of the sample embroideries.

r	1701	- 1740	1741	Total	
Designs	(n =	= 13)	(n :	= 22)	(n = 35)
	f	%	f	%	
nimal Life	5	38	9	41	14
Plant Life	13	100	22	100	35
Flowers	13	100	21	95	34
Leaves	12	92	17	77	29
Nuts, Berries, Fruit and Seeds	12	92	21	95	33
Trees	4	31	3	14	7
fiscellaneous	1	8	1	5	2

In that case, as the commercial ventures of the colonial settlers increased, it is likely that the availability of pattern books increased, also.

By the early 1740's, colonial newspapers contained notices advertising fabrics with stamped designs and custom drawn patterns. For example, "A variety of very beautiful patterns . . . " were offered for sale by Elizabeth Russel, within the <u>Boston Gazette</u> on December 15, 1747 [Dow, 1927, p. 274]. Pattern drawing and education were two modes of employment considered acceptable during the colonial period for widowed or single women. As the population of New England grew, no doubt so did the number of individuals offering these services.

As can be perceived from Table 13, during the designated colonial period the American embroidery product was altered in design in addition to the alterations in color and stitches. Not only did the general design themes change in frequency of use between 1701 and 1781, but individual motifs within these categories also gained or declined in popularity. Table 14 presents those motifs which evidenced the greatest increases or decreases in use from the first historic period to the second. (For illustrations, see Appendix C.)

#### Geographic Locations of Origin

The average number of different colors, stitches, and designs used per embroidery within each geographic location of origin, were calculated. The results were as shown in Table 15.

In addition, the types of items embroidered, plus the colors, stitches, and designs found on these embroideries, were tallied by geographic locations of origin, as shown in Tables 16, 17, 18 and 19.

Frequency and percentage of motif use, by

dates of origin of the sample embroideries.

Motifs	1701	- 1740 - 13)	1741 (n =	1741 - 1781		
TUCLES	f	~ 13) %	f	%	(11 - 55)	
Animal Life						
design l	5	38	7	32	12	
design 4	0	0	3	14	3	
design 6	0	0	2	9	2	
<b>Plant Life -</b> Flowers						
design 15	2	15	10	45	12	
design 21	5	38	0	0	5	
design 32	4	31	1	5	5	
<b>Plant Life -</b> Leaves						
design 34	2	15	7	32	9	
design 36	5	38	3	14	8	
design 37	5	38	0	0	5	
Plant Life - Nuts,						
Berries, Fruit and Seeds						
design 48	3	23	11	50	14	
design 52	4	31	3	14	7	
Plant Life - Trees						
design 73	3	23	3	14	6	
design 74	1	8	3	14	4	
design 75	0	0	2	9	2	

Average number of colors, stitches and designs per embroidery,

Characteristics	Conn. M	Maine M	Mass. M	N.H. M	Ver. M
Colors per Embroidery	3.2	1.0	5.79	5.0	8.0
Stitches per Embroidery	6.8	7.0	5.0	6.0	5.0
Designs per Embroidery	10.8	9.5	12.79	12.0	15.0

by geographic locations of origin of the sample embroideries.

The crewel embroidery products created within the different geographic locations differ from one another in frequency of color, stitch and design use (Table 15). It is interesting to note that the subdivision having the greatest variety of stitches per embroidery (i.e., Maine) made the least use of color and design variations. On the other hand, the geographic area with the greatest variations in color and design per embroidery (i.e., Vermont) used the least number of stitches.

As stated previously, the number of colors, stitches and designs used within an embroidery is, in part, related to the size of the embroidered item (i.e., small items have less fabric space available for variety). Therefore, the types of items embroidered were tallied by locations of origin, for further analysis (Table 16).

Table 16 indicates that, in the case of colonial New England crewel embroidery, there is little relationship between the size of the embroidered item and the number of embroidery colors, stitches, and

Frequency and percentage of types of items embroidered,

by geographic locations of origin of the sample embroideries.

	Connec	ticut	Ma	ine	Massac	husetts	New Hé	ımpshire	Vern	ont	Total	
Items	<b>- u)</b>	= 5)	, n	= 2)	= u)	: 14)	- u)	: 1)	= u)	- 1)	(n = 21)	
	f	%	f	%	f	%	f	%	f	%		
Bed Sets, complete	0	0	0	0	2	14	0	0	0	0	2	
Children's Clothes	0	0	0	0	-1	7	0	0	0	0	1	
Coverlets	S	100	2	100	S	36	0	0	0	0	12	
Curtains	0	0	0	0	7	7	н	100	0	0	2	
Petticoat Borders, women's	0	0	0	0	7	14	0	0	Ч	100	2	
Pockets	0	0	0	0		7	0	0	0	0	1	
Valances	0	0	0	0	2	14	0	0	0	0	2	

designs used upon that item. Note that the embroidery created in Vermont, which used the largest number of colors and designs, was placed upon a narrow band at the hem of a woman's petticoat. On the other hand, those embroideries created within Maine, which evidenced the least variation in designs per embroidery, were large coverlets. Similarly, while Massachusetts embroideries had little variation in stitches per embroidery, these embroideries were found on very large items (i.e., complete bed sets), as well as very small items (i.e., pockets).

Assuming that the twenty-one embroideries analyzed in Table 17 are in fact representative, those embroideries created in Massachusetts

#### TABLE 17

Frequency and percentage of color use, by

geographic locations of origin of the sample embroideries.

Colors	Conne (n	Connecticut $(n = 5)$		ine = 2)	Massachusetts $(n = 14)$		Total (n = 21)
	f	%	f	%	f	%	
Blue	5	100	2	100	12	86	19
Black	2	40	0	0	6	43	8
Brown	2	40	0	0	10	71	12
Green	2	40	0	0	13	93	15
Purple	0	0	0	0	2	14	2
Red	2	40	0	0	13	93	15
White	1	20	0	0	12	86	13
Yellow	2	40	0	0	13	93	15
Monochromatic Blue	3	60	2	100	1	7	6

have greater diversity in color use. Massachusetts embroideries contained all of the eight colors, but none of the colors were found in all of the embroideries. On the other hand, Connecticut embroideries used only seven of the eight colors, of which one color was used in all of the embroideries. Both of the Main embroideries were uniform in color use, containing only blue yarns.

The fact that embroideries created in Massachusetts contained many more colors than those created in Maine, suggests a higher level of trade in commercial dye materials in Massachusetts. This concept is supported by Carl Bridenbaugh, who wrote: "... Boston had always been the mart town of the New England colonies. Priority had given her merchants control of virtually all of the coastwise and West Indies traffic and a major share of that with the mother country." Even when other New England towns grew to compete with Boston's trade monopoly, the majority were still located within Massachusetts, such as Salem, Lynn, Medford, and Newbury [Bridenbaugh, 1955, pp. 47, 48]. Thus it is reasonable to assume that such a concentration of commercial activity in Massachusetts, would have made products, including commercial dye materials, readily available to Massachusetts residents.

Those embroideries created in Massachusetts represent a much more diverse use of stitches, also (Table 18). With the exception of the back stitch and the split stitch, each of the stitches was found on at least one Massachusetts embroidery. However, none of the stitches were used in all of the Massachusetts embroideries.

In comparison, the Connecticut and Main embroideries were more standardized in stitch use. For example, three stitches were used in all five of the Connecticut embroideries, while six stitches were not used in

# Frequency and percentage of stitch use, by

geographic locations of origin of the sample embroideries.

	Conne	cticut	Ma	ine	Massad	chusetts	Total
Stitches	(n	= 5)	(n	= 2)	(n =	= 14)	(n = 21)
	f	%	f	%	f	%	
Back	0	0	0	0	0	0	0
Bullion Knot	1	20	0	0	4	29	5
Buttonhole	4	80	2	100	3	21	9
Chain	0	0	0	0	2	14	2
Cross	5	100	2	100	5	36	12
Economy	5	100	2	100	11	7 <del>9</del>	18
Feather	0	0	0	0	2	14	2
French Knot	0	0	0	0	6	43	6
Herringbone	4	80	2	100	3	21	9
Outline	5	100	2	100	13	93	20
Running	2	40	2	100	1	7	5
Satin	1	20	0	0	6	43	7
Seed	2	40	0	0	7	50	9
Split	0	0	0	0	0	0	0
Star	2	40	0	0	2	14	4
Straight	3	60	2	100	4	29	9
Tear	0	0	0	0	1	7	1

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any of these embroideries. Likewise, seven stitches were used in both of the Maine embroideries, and ten stitches were not used in any of them.

It may be that variety in stitch use is indicative of population diversity. As indicated previously, Boston and other Massachusetts port cities were the centers of New England importation. It is reasonable to assume that this "importation" included immigrants and a collection of new and different ideas (and stitches) brought with them. If this was the case, Massachusetts probably contained a much more diverse population, and one with more rapidly developing communication of ideas, as the growing population moved westward, than Maine. Maine, not experiencing such a constant influx of new residents, probably contained a much more homogenous, stable population [Bridenbaugh, 1961, p. 33].

As shown in Table 19, the Massachusetts embroideries made greater use of animal life motifs, than either Connecticut or Maine. The use of animal motifs, which are more difficult to draw than plant designs, suggests a greater availability of commercial patterns, professional pattern drawers, or art education within the Massachusetts colony. It is reasonable to assume that such products and services were more readily available within Massachusetts, with its growing population and commercial activity, than in the more isolated areas of New England.

The colonial crewel embroideries created within the various geographic locations differed in the individual motifs used, as well as in the major design themes which were depicted. Table 20 presents those motifs which evidenced the greatest variance from one geographic location to another. (For illustrations, see Appendix C.)

#### Frequency and percentage of design use, by

geographic locations of origin of the sample embroideries.

Destanc	Conne	cticut	Ma	ine	Massa	chusetts	Total
Designs	f	= )) %	(n f	= 2) %	(n f	= 14) %	(n = 21)
Animal Life	0	0	0	0	6	43	6
Plant Life	5	100	2	100	14	100	21
Flowers	5	100	2	100	14	100	21
Leaves	4	80	2	100	12	86	18
Nuts, Berries, Fruit and Seeds	5	100	2	100	13	93	20
Trees	0	0	0	0	2	14	2
Miscellaneous	0	0	0	0	2	14	2

If the embroideries analyzed within this section are in fact representative, then the conclusion is that crewel embroidery was most popular during the eighteenth century, within Massachusetts. During this time period, the crewel embroidery product was altered in complexity, in that by the later years, fewer and simpler colors and stitches were used to decorate increasingly larger items. Later embroideries also used fewer design motifs. Similarly, the crewel embroidery product varied according to geographic location of origin. Those embroideries having the greatest variations in color and design used the fewest number of stitches, while those embroideries having the greatest variations in stitches used the fewest numbers of color and designs.

# Frequency and percentage of motif use, by

geographic locations of origin of the sample embroideries.

Motifs	Connec (n =	cticut = 5)	Ma (n	ine = 2)	Massac (n =	chusetts = 14)	Total (n = 21)
	f	%	f	~~~~%	f	%	<b>、</b>
Animal Life							
design 1	0	0	0	0	5	36	5
design 2	0	0	0	0	2	14	2
design 3	0	0	0	0	2	14	2
design 4	0	0	0	0	2	14	2
Plant Life - Flowers							
design 12	3	60	2	100	7	50	12
design 13	3	60	0	0	9	64	12
design 14	3	60	0	0	8	57	11
Plant Life - Leaves							
design 34	3	60	2	100	2	14	7
design 35	1	20	0	0	6	43	7
Plant Life - Nuts, Berries, Fruit and Seeds							
design 47	3	60	0	0	7	50	10
design 48	4	80	ĩ	50	5	36	10
design 66	0	0	2	100	0	0	2
Plant Life - Trees							
design 73	0	0	0	0	2	14	2
design 74	Õ	Õ	Õ	Õ	2	14	2

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Comparison of Crewel Designs and Colonial Environments

Objective 3: to <u>compare</u> the designs used within colonial crewel embroidery with the <u>physical environment</u> within New England during the colonial period.

The hypothesis, pertaining to the above objective predicted that a comparison of colonial crewel embroidery designs with the colonial New England physical environment would reveal that a majority of these embroideries could illustrate the physical environment within which they were created. A subsequent analysis of the eighty-one designs found on the sample embroideries, in relation to the colonial environment, indicated this hypothesis to be true.

A study of information pertaining to the colonial New England physical environment yielded objects with shapes similar to sixty-one of the eighty-one designs, or seventy-five percent. (For verification of the presence of these aspects within the colonial environment, see Appendix D.) Those twenty designs, or twenty-five percent, which showed no similarity in shape to the physical environment of colonial New England, are illustrated in Figure 4.

The remainder of this section is an individual analysis of those designs observed to have shapes similar to objects in the colonial New England environment. Within the major design themes (i.e., animal life, plant life, and miscellaneous), which are arranged alphabetically, the individual motifs are presented in order of frequency of use. In other words, the design presented first in any given category is that design which was found to have been used the most often, of all the designs within that category.





## Design One

Design one represents a bird, either in flight or not. The early settlers found an abundance of native wild birds within the forests of New England, including partridges, hummingbirds, and turkeys. In addition to these the colonists transported domestic chickens, ducks, geese, and turkeys from England [Carrier, 1923, pp. 143, 144, 148, 258; Josselyn, 1672, pp. 142-147; Josselyn, 1674, pp. 96-101; Leighton, 1970, p. 277].



## Design Two

Design two depicts a four-legged animal with branching antlers and a stubby tail. These characteristics indicate that this animal is a member of the deer family. Wild deer and elk roamed the New England area during the colonial period [Carrier, 1923, p. 144; Josselyn, 1674, pp. 153, 154; Lindroth, 1957, p. 19].



## Design Three

Design three represents various varieties of insects. It is known that the colonists kept bees, using the honey as a substitute for costly, imported cane sugar [Carrier, 1923, p. 258; Josselyn, 1672, p. 170; Josselyn, 1674, pp. 116-122].



#### Design Four

Design four illustrates a member of the canine family. Colonial writings indicate that wolves, available within the colonial environment, were a constant threat to livestock. The early settlers also discovered native foxes within New England. Examination of paintings created within New England during the colonial period, indicate that the colonists also kept domesticated dogs. This design is probably most frequently illustrative of a dog, being usually worked with black and white yarns in a spotted pattern [Carrier, 1923, p. 144; Flexner, 1947, pp. 163, 170, 231, 265; Josselyn, 1672, pp. 155, 156; Josselyn, 1674, p. 192; Lindroth, 1957, p. 19].



#### Design Five

This design represents a squirrel, as recognized by the characteristic full tail. Squirrels have existed on the American continent since prehistoric times, and several varieties are native to the New England area: gray squirrel, red squirrel, southern flying squirrel and northern flying squirrel [Collins, 1959, p. 278; Flexner, 1947, 229].

It is possible that design five is a representation of the gray squirrel. In each of the sample embroideries, within which this design was included, it was worked with gray yarns.



#### Design Six

Design six is a sheep, as recognized by the low body build and stubby tail. Sheep were raised for their wool, by the colonists, from the very earliest years of New England colonization. Sheep are mentioned frequently within colonial writings [Carrier, 1923, pp. 143, 146, 148].



## Design Seven

Design seven illustrates a rabbit or hare, as identified by the extended ears and crouched position. The presence of rabbits upon the American continent dates from prehistoric times, and several varieties are found within the New England area: snowshoe rabbit, Eastern cottontail, and New England cottontail [Collins, 1959, p. 273; Josselyn, 1672, p. 156].



#### Design Eight

Design eight depicts a goat. This design is distinguishable from design two (i.e., deer) by the shape of the antlers. While design two illustrates branching antlers, design eight has singular backward curving horns, characteristic of goats.

Goats were available within the colonial American environment, having been brought from England by the early settlers [Carrier, 1923, pp. 143, 144, 146].



### Design Ten

Design ten illustrates a female human, wearing a floor length gown, with a deep scooped neckline, fitted waist, gathered or flared skirt, and long sleeves. This costume if similar to that worn by New England women during the colonial period. However, examination of colonial portraits indicates that, while long sleeves were not unknown, the more popular style was elbow length [Flexner, 1947, pp. 128, 132, 142, 146, 200].

Plant Life - Flowers

Design Eleven

Design eleven is a single flower, composed of a cluster of vertical petals arranged in a relatively deep cup shape. This design, devoid of a calyx, varies in the number of petals illustrated. Eight flowers known to the American colonists possess similar characteristics: arach, autumn crocus, bloodroot, dittander, pumpkin, tulip, water lily and wild garlic [Carrier, 1923, p. 148; Josselyn, 1672, pp. 176, 188, 217, 224; Leighton, 1970, pp. 190, 253, 273; Taylor, 1952, p. 14].

Several of the above flowers, upon further examination, can be tentatively eliminated. For example, while the individual arach blossom meets the descriptive characteristics of design eleven, arach flowers grow in clusters rather than single units. The same is true of the wild garlic. The design flower, on the other hand, is depicted as a single blossom at the end of a supporting stem. Similarly, dittander flowers grow in groups which form spikes, the blossoms radiating from a central stalk.

The bloodroot and water lily flowers, both being clusters of vertical petals upon a single stalk, are a slightly different shape than the design flower. The petals of these flowers curve outwards from the base, with petal tips pointing inwards. The resulting shape is somewhat circular. The petals of the design flower, however, curve slightly inward, causing the tips to flare outwards.

The pumpkin blossom, while being a verticle cluster of petals, is unlike the design flower in that it also has a definite green calyx.

Thus, the flowers known within the colonial environment which most closely resemble the flower illustrated in design eleven, are the autumn crocus and the tulip. Both were domestic plants grown in English gardens prior to colonization, and were therefore, equally familiar to the settlers.



#### Design Twelve

Design twelve is an open, multi-petaled flower. The individual petals are depicted as being wide and rounded in shape, and grouped in circular rows of five petals each. Five pointed leaf tips project between the five outer petals of the blossom, suggesting the presence of a visible calyx.

The flower known within the colonial environment which most resembles the above design is a rose. Roses are radially symmetrical, often multi-petaled, and possess a calyx. Also, the open rose design was a familiar motif within early New England. For example, the Rosa Americana, a coin minted in England for use in the colonies, bore the design of an open five-petaled rose. This design was also found on the stamps issued under the Stamp Act of 1756. Later, the colonial whig party adopted the rose as its symbol [Josselyn, 1672, pp. 195, 224; Leighton, 1970, p. 380; Stearns, n.d., p. 26].


#### Design Thirteen

Design thirteen also is an open flower with petals in a circular row of five. However, this design depicts a single, as opposed to a multi-petaled, flower, each having only one row of five petals, with no visible calyx. In relation to other designs, design thirteen represents a rather small flower.

Thirty-three flowers known to the early American colonists possess characteristics similar to design thirteen. (See Appendix D.) It is reasonable to assume that the plants most useful to the colonists, and therefore the most familiar, were the plants most frequently used for design. In the case of design thirteen, this would mean that the flowers of the apple, blackberry, cherry, peach, pear, plum, pomegranate, raspberry, strawberry (all food sources), Saint Johnswort (a preservative), cowslip (a medicinal remedy), flax (a source of textile fibers), and bouncing Bet (a soap substitute) were those blossoms most likely depicted [Adrosko, 1968, p. 36; Carrier, 1923, pp. 30, 31, 143, 148; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Earle, 1901, pp. 33, 34; Harbeson, 1938, p. 30; Josselyn, 1672, passim; Josselyn, 1674, pp. 76, 78, 188; Leighton, 1970, passim; Taylor, 1952, pp. 17, 60].



# Design Fourteen

This design depicts a single flower (i.e., one circular row of petals) in which petals with serrated edges emerge individually from a cup shaped calyx.

Single carnations, coreopsis, gentian, and sweet William, all available within the colonial American environment, possess similar characteristics. Of these four plants, the carnation flower was probably the most frequently depicted. The carnation was a popular design in England, prior to the colonization period, and was adopted as a symbol of the royal Stuart lineage. Its popularity may have been brought to New England by the English settlers [Earle, 1901, p. 34; Josselyn, 1672, p. 223; Leighton, 1970, pp. 277, 278, 308; Taylor, 1952, p. 28].



# Design Fifteen

Design fifteen is similar to the preceding design, in that the flower emerges from a prominent calyx. The individual petals, however, are not separated, and are represented by scallops. This gives an appearance of a larger number of petals, and a much fuller head.

Thus, design fifteen could represent double carnations and coltsfoot, in addition to single carnations, coreopsis, and sweet William. All of these were known to the New England colonists and possess the above characteristics, with double carnations and coltsfoot having a larger number of petals [Earle, 1901, p. 34; Leighton, 1970, pp. 277, 278, 280; Taylor, 1952, p. 28].



### Design Sixteen

Design sixteen consists of an upside down cup shape, from which emerges an elongated pointed tongue. The number of petals illustrated as composing the cup varies.

This particular design is a rather unusual shape, and only one plant known to have been available within the colonial environment, was found to resemble it. The dovesfoot acquires a similar shape during transition from flower to seed pod. After the petals of the blossom have fallen off, there remains the green, cup shaped calyx, from which emerges the long, pointed tip of the forming seed pod [Leighton, 1970, p. 295].



# Design Seventeen

This design consists of flower designs having elongated bulbous calyces, or a similar shape produced by the lower corolla, with small blossoms on the ends. Eight plants grown within colonial New England also possess these characteristics: borage, bouncing Bet, calamint, catchfly, lettuce, plantain, rocket, and trumpet creeper [Earle, 1901, p. 33; Josselyn, 1672, p. 220; Leighton, 1970, pp. 178, 190, 263, 366; Taylor, 1952, pp. 18, 87].

The lettuce flower head is a spherical mass of small blossoms emerging from an oval calyx. Thus it most resembles the third version of design seventeen. The seven remaining plants resemble the other two versions, having a single blossom at the end of a tapering bulb-like shape.

# Design Eighteen

Design eighteen depicts an unopened flower bud wrapped in a protective calyx. Since all flowers emerge from similarly shaped buds, this design could easily illustrate most of the flowers known to colonial New England.



Design Nineteen

Design nineteen illustrates an open flower with a single row of narrow elongated petals. The Jerusalem artichoke, black-eyed Susan, camomile, sunflower, star-of-Bethlehem, and sweet scabious all produce flowers with similar characteristics. These plants were available within the environment of colonial New England [Earle, 1901, p. 34; Josselyn, 1672, pp. 192, 194, 223; Leighton, 1970, pp. 190, 245, 265, 266, 318; Taylor, 1952, pp. 16, 79].



# Design Twenty

Design twenty is a multi-petaled version of design nineteen, in that it has several circular rows of narrow, elongated petals. Of the flowers known to have been grown within the American colonies, this design could easily represent the calendula, coltsfoot, dandelion, hawkweed, African marigold, or mouse-ear [Earle, 1901, p. 33; Josselyn, 1672, pp. 181, 216, 221; Leighton, 1970, pp. 190, 280; Taylor, 1952, pp. 19, 11].



#### Design Twenty-one

Design twenty-one represents a multi-petaled flower, whose dense head is somewhat global in shape. This flower, supported on a single stem, has a calyx, of which two sepal petals are visible. The rose and the peony both possess similar characteristics. Of these, the peony is the less likely to have been represented in embroidery. While authorities on colonial American gardens believe the peony to have been raised in early New England, no written evidence in support of this supposition has been found. This would indicate that if the peony was grown within colonial gardens, it was not especially popular.

The presence of the rose, on the other hand, is documented in early colonial writings. Also, the rose was a popular design motif, for purposes other than embroidery, during the colonial period. (See design twelve, page 61) [Leighton, 1970, pp. 362, 363, 380; Stearns, n.d., p. 26].



# Design Twenty-two

This design depicts a flower whose petals turn backwards at the tip, exposing protruding stamen with prominent anthers. This characteristic lily shape could be a representation of the adders tongue, blue Greek valerian, mountain lily, red lily, tawny daylily, or yellow adders tongue, all of which were growing within New England during the colonial period [Josselyn, 1672, pp. 172, 188; Leighton, 1970, p. 410; Taylor, 1952, p. 85].

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# Design Twenty-three

This design illustrates a cup shaped flower with many, relatively narrow petals or a few petals with serrated edges. The petal construction is represented by a serrated upper edge, with no division lines. No evidence of a calyx is included.

The carnation, coreopsis, and sweet William have petals with serrated edges, and could possibly be depicted by design twenty-three. However, these blossoms each have a green calyx at the base of the petals, which is not illustrated within the design.

The bloodroot, tulip and water-lily, on the other hand, have pointed, narrow petals in a cup shape, without a visible calyx. Thus it is more likely that this design represents one of these three flowers, all of which grew within colonial New England [Earle, 1901, pp. 30, 34; Leighton, 1970, pp. 253, 277, 278, 329; Taylor, 1952, pp. 28, 88].



#### Design Twenty-five

Design twenty-five represents an open blossom, having a single row of petals with serrated edges. Ten plants grown within New England during the colonial period, possess single flowers with serrated petals: carnation, coreopsis, endive, featherfew, goats-beard, grass pinks, mayweed, pellitory of Spain, sneezewort, and sweet William. All appear to have been equally well-known to the early settlers [Earle, 1901, p. 34; Josselyn, 1672, pp. 219, 222; Leighton, 1970, pp. 190, 277, 278, 301, 361, 392, 414; Taylor, 1952, pp. 28, 45].



# Design Twenty-six

Design twenty-six depicts a stalk of flowers, in which the corolla is bell shaped. No calyx is illustrated. Eight plants grown within colonial New England have similarly bell shaped flowers, although the following four possess visible calyses: bearberry, blueberry, canterberry bell and lungwort [Josselyn, 1672, pp. 196, 197, 202; Leighton, 1970, p. 333; Taylor, 1952, p. 19].

It is therefore more likely that one or more of the remaining four plants was illustrated by this design: asparagus, currant, huckleberry, or Solomon's seal. Of these, colonial writings indicate that currants, huckelberries, and one variety of Solomon's seal were used as a food source, and therefore probably most familiar to the early colonists [Carrier, pp. 30, 143; Josselyn, 1672, pp. 176, 186, 223; Leighton, 1970, p. 333].



#### Design Twenty-seven

This design illustrates an elongated bell shaped flower, having a single circular row of pointed petals, and no calyx. In context with other designs, it represents a relatively large flower.

Four colonial plants have blossoms of similar shape: catchfly, plantain, trumpet creeper, and tulip. Because the catchfly, plantain, and trumpet creeper flowers are all relatively small flowers, two of which have calyses, it is most probable that design twenty-seven is a stylized representation of the tulip [Earle, 1901, pp. 30, 33; Leighton, 1970, p. 366; Taylor, 1952, pp. 87, 88].



#### Design Twenty-nine

This design represents a bell or cup shaped flower, from which prominent stamen are suspended. Two flowers, known to the New England colonists, grow in a similar manner: columbine and hops [Josselyn, 1672, p. 178; Leighton, 1970, pp. 190, 315].

Neither of these two flowers is an exact likeness to the above design. In the case of the columbine, the design lacks the characteristic vertical antlers. The corolla of the hops, on the other hand, is less compact than that illustrated above, the petals being spread further apart.



# Design Thirty

Design thirty also illustrates a cup shaped flower with prominent stamen, but one in which the corolla has more petals, and a looser arrangement. This design could also represent hops, or a double columbine (Aquilegis vulgaris flore pleno). However, concerning the columbine, this design lacks any indication of vertical antlers [Leighton, 1970, pp. 27, 190, 315].



#### Design Thirty-one

A botanical description of the red clover states that "the flowerhead is large, close and round . . . Beneath the head, like a collar, are found three membrane-like leaves." This is also a very accurate description of the above design. Red clover was grown extensively on colonial New England farms [Josselyn, 1674, p. 188; Leighton, 1970, p. 279; Miller, 1895, p. 130].



#### Design Thirty-two

Design thirty-two could be a stylized representation of such wide, flat flowers as the Jerusalem artichoke, black-eyed Susan, comomile, maudlin, New England daisie, American sunflower, sweet scabious, calendula, dandelion, or hawkweed [Earle, 1901, pp. 33, 34; Josselyn, 1672, p. 216; Leighton, 1970, pp. 190, 203, 205, 211, 245, 265, 266; Taylor, 1952, pp. 16, 19].

This design could also be an illustration of a wide flower head, composed of minute individual blossoms. Examples of this type of flower, known to have grown within colonial New England, include Alexanders, caraway, carrot, elder, parsley, parnip, and yarrow [Josselyn, 1672, pp. 178, 182, 183, 221; Leighton, 1970, pp. 190, 267, 355, 418; Taylor, 1952, p. 33]. Plant Life - Leaves

Design Thirty-three

Design thirty-three is a leaf pattern which could be a stylized representation of leaves from many of the previously mentioned colonial plants. This design is especially similar to the leaves of the rose, which was a very popular motif during the colonial period [Leighton, 1970, p. 380; Stearns, n.d., p. 26].



Design Thirty-four

This design depicts an elongated leaf with scalloped or serrated edges, usually in units of three. No plant, grown within colonial New England, was found to have similar leaf construction.

The above leaf design does resemble the Greek acanthus leaf, found upon artifacts dating from the classical period of Greece and the Greek revival period within the western world. The acanthus leaf was a motif used extensively upon classical and Renaissance architecture, and was later adapted to such furniture styles as William and Mary, Queen Anne, and Chippendale. It is possible that this acanthus leaf motif, included within colonial crewel embroidery, is an indication of the growing popularity of Greek design within the American colonies [Comstock, n.d., Vol. I, pp. 33, 39; Hamlin, 1923, p. 411; Hornung, 1950, Vol. I, p. 201].



Design Thirty-five

Design thirty-five depicts an elongated leaf with scalloped edges. Two plants, grown within the New England colonies, contained similar leaves: betony and burnett [Josselyn, 1672, p. 221; Leighton, 1970, pp. 190, 253].



#### Design Thirty-six

Design thirty-six illustrates an ovate leaf (i.e., longer than wide, the widest part being toward the base and tapering to a tip) with distinctly serrated edges. Thirteen plants known to the New England settlers have leaves similar in appearance. According to historic writings, all but the black snakeroot, bracken and clematis, were grown within colonial New England gardens. The above three plants grew wild [Adrosko, 1968, p. 53; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Earle, 1901, pp. 33, 34; Josselyn, 1672, pp. 175, 197, 221; Leighton, 1970, pp. 190, 269, 344, 358, 392; Taylor, 1952, pp. 25, 33, 40].



Design Thirty-eight

This design illustrates a wide, lobed leaf, with either scalloped or serrated edges. Eight plants, known to the New England settlers, have leaves resembling the above design: avens, bloodroot, celandine, currant, foamflower, gooseberry, grape, and maple. All of these plants, with the exception of the foamflower, served some useful function during the colonial period, and were therefore probably very familiar to the colonists. [Carrier, 1923, pp. 30, 31, 143; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Josselyn, 1672, pp. 179, 181, 224; Josselyn, 1674, pp. 78, 79; Leighton, 1970, pp. 245, 251, 253. 270; Stearns, n.d., p. 40; Taylor, 1952, pp. 38, 40.]



Design Thirty-nine

Of the plants known to have been mentioned within colonial writings, only hellebore bares any resemblance to design thirty-nine. The leaves of the hellebore grow in whorls from a central stalk, the stalk being hidden by these leaves. [Josselyn, 1672, p. 173; Leighton, 1970, p. 310]



#### Design Forty-one

Design forty-one depicts a stem from which grow, what appear to be, small heart shaped leaves. Of the plants mentioned within colonial writings, none were found having a similar leaf arrangement. On the other hand, the black willow seed pods are heart shaped, and grow at regular intervals from a central stem, with the widest part of the pod closest to this stem. The resulting shape is very like the above design [Dye Plants and Dyeing, 1964, p. 94].



Design Forty-two

Design forty-two is a stylized representation of a palmate leaf (i.e., so lobed, that the segments all radiate from one central point.) The palma christi was the only colonial plant found to have a similar

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leaf construction. The leaves of the palma christi, however, have serrated edges, while the design depicts a smooth edged leaf.

The leaf construction of the wild lupine consists of eight individual leaves, having smooth edges, radiating from the centralized end of a short stem. Thus, the resulting configuration greatly resembles design forty-two [Earle, 1901, p. 33].



# Design Forty-three

This design consists of three round leaves emerging from the end of a short stem. Of the plants mentioned within colonial writings, the leaves of the clover and wood sorrel are the ones most likely to have been illustrated by this design [Carrier, 1923, pp. 240, 151; Leighton, 1970, p. 395].

#### Design Forty-five

Design forty-five illustrates heart shaped leaves growing at regular intervals from a central stem. These leaves are attached to the central stem by their narrow tip, having no visible connecting stems. Edging box, an ornamental shrub grown in colonial gardens, has a similar leaf construction [Taylor, 1952, p. 32].



# Design Forty-six

Design forty-six depicts an evergreen branch from which sprays of flowers, leaves or pods are suspended. None of the evergreens mentioned in colonial gardens resemble this configuration.

If design forty-six is interpreted as being highly stylized, a similarity can be seen between it and the flowering pattern of the hops

plant. Hops flowers are suspended, with prominent stamen emerging from the corolla, from a leafy central stem [Leighton, 1970, p. 315].



Plant Life - Nuts, Berries, Fruit and Seeds

# Design Forty-seven

This design represents small berries, attached to a curved central stem by short individual stems. Three colonial plants possess berries resembling this design: barberry, huckleberry, and wild cherry. One additional plant, grown within colonial New England, has a similar shape produced by seed pods, this being fumitory [Adrosko, 1968, p. 34; Carrier, 1923, p. 30; Harbeson, 1938, p. 30; Josselyn, 1674, p. 189; Leighton, 1970, p. 305].



#### Design Forty-eight

Design forty-eight differs from the preceding design in that the berries are depicted as growing in a cluster. Grape clusters, grown within colonial gardens and in the wild, greatly resemble this shape. The grape design was a popular motif with a long history in Christianity and English needlework [Carrier, 1923, p. 31; Stearns, n.d., p. 40; Taylor, 1952, p. 40].



## Design Forty-nine

This design depicts either an oval fruit or seed pod, with leafy extensions at both the stem end and the outer tip. What resembles leaves emerging from the sides of the second version of this design, may be a stylized representation of scales. While no object within the colonial New England natural environment was found to resemble this design, an illustration within the 1629 edition of John Parkinson's <u>Paradisus</u>, shows some similarity. This book is known to have been available within the colonial American physical environment. The illustration, found on the title page of this book, depicts an oval fruit with scales, leaves emerging from the base and sides, and a leafy extension at the top [Leighton, 1970, p. 148].



Design Fifty

Design fifty illustrates a compact head of fruit, seeds or leaves, with or without a calyx. Four plants, grown within the New England colonies, bare some resemblance to this design: gale, oak of Cappadocia, hops, and pine [Josselyn, 1672, pp. 178, 182, 198; Leighton, 1970, p. 315].

The fruit of the gale, hops, and the seed cones of pine trees are similar to the second version of this design, each devoid of a calyx. The heads of the oak of Cappadocia and the fruiting tips of scouring rush stalks resemble the first version of design fifty, having leafy collars and more rounded components.

## Design Fifty-one

Design fifty-one is a globular fruit suspended from an individual stem on the top, and having a small leafy extension on the bottom. Apples, blueberries, cranberries, currents, rose hips, gooseberries, persimmons and beach plums, available within the colonial natural environment, resemble this fruit. With the exception of rose hips, all of these were used as a food source by the early settlers, and were therefore familiar plants [Carrier, 1923, pp. 30, 31, 143, 148; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Josselyn, 1672, pp. 186, 195, 196, 197, 224; Leighton, 1970, pp. 240, 366].



Design Fifty-two

This design depicts fruit or seeds growing in units of three, at the end of an individual stem. Of the plants known to have been available

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within the colonial New England environment, the fruit of the black tupelo best resembles this design. The black tupelo, used as a source of dye, was a familiar plant to the early settlers. [Dye Plants and Dyeing, 1964, p. 94]



# Design Fifty-three

Design fifty-three illustrates a fruiting plant on which the leaves grow in units of three, the fruit having a wide base with a calyx, and narrowing to a blunt point. This description is congruent with that of the strawberry, a very popular fruit within colonial New England. [Carrier, 1923, p. 30; Leighton, 1970, p. 250]

## Design Fifty-five

Design fifty-five represents an elongated oval seed pod or fruit, growing individually at the end of a short stem. The fruit of angelica, coriander, pomegranate, and plum all have a similar configuration.

While the shapes of the individual angelica and coriander fruit resemble the above design, these fruit usually grow in clusters. Design fifty-five depicted fruit growing in individual units, as is the case with pomegranate and plum. [Carrier, 1923, pp. 31, 143, 148; <u>Dye Plants</u> <u>and Dyeing</u>, 1964, p. 94; Josselyn, 1672, pp. 178, 223; Leighton, 1970, pp. 190, 237, 240, 366]



#### Design Fifty-six

Design fifty-six consists of a central stalk, from which emerge stems in units of two, at regular intervals. The outer extremities of these stems contain tubular pods. The only plant known to have been available within colonial New England, which has a similar outline is the glasswort. The glasswort has knobby stems ending in elongated scaled cases. [Josselyn, 1674, p. 80; Leighton, 1970, p. 309]

#### Design Fifty-seven

This design represents a fruit formation in which the berries grow in units of three, on individual stems emerging from a bract. The cherry and bearberry, grown within colonial New England, have similar fruit formations. [Carrier, 1923, p. 143; Leighton, 1970, pp. 250, 271]



# Design Sixty-one

Design sixty-one depicts a deep calyx, from which emerge either the hairy tops of developing seeds, or many very fine petals of a flower. Coltsfoot, live-for-ever, and hawkweed are three finely fringed flowers which resemble this design, while the dandelion, lang-de-beefe, and lettuce have downy heads above their seeds. [Earle, 1901, p. 33; Josselyn, 1672, pp. 191, 216, 220; Leighton, 1970, pp. 190, 211, 280]

# Design Sixty-two

Design sixty-two is an elongated fruit or seed pod, from which extends a curling tendril. The fruit of the avens, certain bean pods, the wand of the dragon plant, the flowering head of the lizards-tail, and the seed pod of the radish resemble this design. Of these plants which grew within colonial New England, the avens bares the most similarity to the design. [Carrier, 1923, pp. 49, 52, 143, 147, 249; Josselyn, 1672, p. 182; Leighton, 1970, pp. 190, 245, 296; Taylor, 1952, p. 56]

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#### Design Sixty-seven

This design depicts an evergreen branch, upon which small berries are growing. The juniper, red cedar and yew, ornamental shrubs within colonial gardens, resemble this design. [Earle, 1901, p. 30; Leighton, 1970, p. 320; Taylor, 1952, pp. 35, 70]



#### Design Sixty-eight

Design sixty-eight is a shape suggestive of an acorn. Colonial writings mention the black, red, and white oak trees, which were used as a source for food, dye, medicinal remedies, and lumber. [Dye Plants and Dyeing, 1964, p. 94; Josselyn, 1672, p. 181; Taylor, 1952, pp. 94, 95]

#### Design Seventy

Design seventy represents a cultivated field planted with grain. The American Indians used fire during their hunting expeditions, thereby creating open grasslands among the New England forests. These, the colonists quickly utilized to raise at least six different grains: barley, corn, oats, rye, timothy and wheat. Thus, a cultivated landscape was a familiar sight within colonial America. [Carrier, 1923, pp. 27, 143, 147, 241, 283; Josselyn, 1672, p. 187; Leighton, 1970, p. 283]



#### Design Seventy-two

Design seventy-two depicts a pear shaped fruit, and it is reasonable to assume that the fruit in question is, in fact, a pear. Colonial writings document the presence of pear trees within the New England environment. [Carrier, 1923, pp. 143, 148]

Plant Life - Tree Types



#### Design Seventy-three

This design illustrates a relatively small tree, having a crooked, knarled trunk and spreading limbs. Of the trees known to have grown within colonial New England, this tree type best represents the apple, peach, plum and pomegranate. [Adrosko, 1968, p. 36; Carrier, 1923,
pp. 31, 143, 148; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Leighton, 1970
pp. 240, 366]



Design Seventy-four

Tree type seventy-four is a stylized representation of an evergreen tree. This is evident from the straight tapering central trunk and radiating, angular foliage. The pine and cedar trees of New England bare a resemblance to this design. [Josselyn, 1672, pp. 198, 200; Taylor, 1952, p. 70]



#### Design Seventy-five

Design seventy-five depicts a tall tree with a straight central trunk and sparce foliage in horizontal layers. The silhouette of the eastern white pine is very similar. [Stearns, n.d., p. 28]



# Design Seventy-seven

Design seventy-seven is a tree with a straight central trunk and radiating limbs covered by dense leafy foliage. Trees known to have been available within the New England colonies, which especially resemble this design include: black oak, black tupelo, cherry, maple, persimmon, and walnut. All of these trees supplied food, dyes or other commodities to the early settlers, and were therefore familiar plants. [Brockman, 1968, p. 92; Carrier, 1923, pp. 31, 143; <u>Dye Plants and Dyeing</u>, 1964, p. 94; Josselyn, 1672, p. 184; Leighton, 1970, p. 271] Miscellaneous



## Design Eighty-one

Design eighty-one is an illustration depicting rectangular buildings with steep slanted roofs. Buildings within colonial New England, erected from the very earliest years of settlement, had a similar architectural shape. [Flexner, 1947, p. 163; Kimball, 1922, p. 10]

# Designs Not Representative of the Environment

Twenty, or twenty-five percent, of the eighty-one colonial crewel embroidery motifs evidenced no similarity in shape to aspects of the colonial New England environment. These twenty designs are illustrated in Figure 4.

# FIGURE 4

The twenty crewel embroidery designs found not to have shapes resembling aspects of the colonial New England environment.



### SUMMARY AND CONCLUSION

The purposes of this study were: 1) to describe the characteristic colors, stitches and designs found in crewel embroidery created within New England during the colonial period, 2) to analyze these characteristics in relation to the dates and locations of the sample embroideries, and 3) to analyze the characteristic designs in relation to aspects of the colonial New England physical environment.

The sample was composed of fifty crewel embroidered items, believed to have been created between 1620 and 1781, within the geographic boundaries of New England. A data sheet, plus color slides or black and white sketches, were used to record information pertaining to each embroidered item. All photographs and sketches were later transposed into black and white line drawings for analysis by shape (i.e., the two dimensional characteristics of a motif, as defined by its outline.)

For the purpose of describing the stitches, colors and designs found in the sample embroideries, the embroideries were cross tabulated into groups based upon use of these characteristics. Secondly, in order to determine possible relationships between the dates and locations of origin of the sample embroideries and the characteristics found in these embroideries, the characteristics were cross tallied by dates and locations of origin. Lastly, the shapes of the individual crewel embroidery motifs were compared with shapes found in the colonial physical environment, to determine whether the sample embroideries could be illustrative of that environment.

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A summary of the proposed objectives, hypothesis and results is as follows:

Objective 1: to <u>describe</u> the colors, stitches and designs used <u>most frequently</u> in New England crewel embroideries created during the colonial period.

Assuming that the fifty embroideries included in this study are in fact representative, it can be concluded that: 1) the most frequently used colors were the primary hues of blue, red and yellow, 2) the most frequently used stitches were the outline, economy and seed, each of which fulfills a different design function, and 3) the most popular designs were those depicting plant life.

Objective 2: to <u>study</u> the colors, stitches and designs of colonial crewel embroidery in relation to the <u>dates</u> <u>and geographic locations of origin</u> of the sample embroideries.

A study of the average number of characteristics per embroidery, by date of origin, indicated that the crewel embroidery product was modified slightly from the first half of the designated period to the second half. The embroideries were worked with fewer colors, stitches and designs during the later period, thus producing a simpler product.

The use of all but one of the individual colors declined during the colonial period, accompanied by a rise in the frequency of monochromatic schemes. This indicates little relationship between colors used and the availability of dye materials.

While the use of the outline and economy stitches retained popularity during both segments of the designated time period, the third most

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popular stitch changed from the French knot to the seed stitch. The seed stitch produces the same effect as the French knot, but requires fewer steps in its production.

The use of animal motifs increased slightly in frequency during the 1700's, while the use of flower and leaf motifs declined. Animals are usually more difficult to draw realistically than are plant forms. Thus, more frequent use of animal motifs suggests a greater availability of commercial patterns, professional pattern drawers, or art education.

A study of the average number of characteristics per embroidery, by location of origin, indicated that the crewel embroidery product varied according to geographic origin. Those embroideries created in Maine evidenced more different stitches per embroidered item, while those created within Vermont and Massachusetts used fewer stitches, but more colors and designs per embroidery.

Connecticut and Massachusetts embroideries, in general, used a larger number of different colors than did the embroideries created in Maine. This suggests a higher level of trade in commercial dye materials in the ports of Massachusetts and Connecticut.

The embroideries created in Massachusetts and Connecticut also made use of a larger variety of stitches, than did the group of embroideries created in Maine. Perhaps Maine had a more homogenous population, and/or a less well developed system of communication, resulting in a comparatively slow rate of introduction and spread of ideas and techniques.

The Massachusetts embroideries contained more animal life motifs, than either Connecticut or Maine. The use of animal motifs, which are more difficult to draw than plant motifs, suggests a greater availability

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of commericial patterns, professional pattern drawers, or art education within the Massachusetts colony.

Objective 3: to <u>compare</u> the designs used within colonial crewel embroidery with the <u>physical environment</u> within New England during the colonial period.

Sixty-one of the eighty-one designs used within the sample embroideries were found to have shapes similar to objects available within the colonial New England physical environment. This result supports the following hypothesis:

Hypothesis: A comparison of colonial crewel embroidery designs with the New England colonial physical environment will show that a majority of these embroideries could illustrate the physical environment within which they were created.

The results of this study indicate that: 1) colonial New England crewel embroidery can be identified, having recognizable characteristics, 2) colonial crewel embroidery does vary according to date and geographic location of origin, and 3) there is a possible relationship between the designs used in colonial crewel and the physical environment within which it was created. In addition, the variations in the crewel embroidery product, as determined by date and location of origin, suggest still more relationships between colonial crewel embroidery and the environment. In other words, it is plausible to consider colonial crewel embroidery a representative art form indicative of the environment within which it was created.

# Recommendations for Further Study

The results of this study indicate a need for further investigation of the following propositions:

- The greater the use of complex embroidery motifs within a given society, the greater the availability of commercial patterns, professional pattern drawers, or art education within that society.
- The greater the variety of colors used within the embroideries of a given society, the greater the trade in commercial dye materials by that society.
- 3. The greater the variety of stitches used within the embroideries of a given society, the greater the heterogenous composition of that society.
- 4. The greater the variety of stitches used within the embroideries of a given society, the greater the development of systems of communication within that society.

In future studies of this type, it is recommended that the following procedural alterations be made.

- Limitation of the scope of the particular research to only one or two major objectives.
- Study of a larger sample of the needlework being investigated, with more equal representation of that created within the various geographic regions.

**BIBLIOGRAPHY** 

#### **BIBLIOGRAPHY**

- Adrosko, Rita J. <u>Natural Dyes and Home Dyeing</u>. Mineola, New York: Dover Publications Inc., 1968.
- Albion, Robert G., et. al. <u>New England and the Sea</u>. Middletown, Connecticut: Wesleyan University Press, 1972.
- Art's Master-piece or, A Companion for the Ingenius of Either Sex. London: n.p., 1697.
- Baker, Muriel L. <u>A Handbook of American Crewel Embroidery</u>. Rutland, Vermont: Charles E. Tuttle Co., 1966.
- Banks, Charles. <u>The Winthrop Fleet of 1630</u>. Cambridge, Massachusetts: Riverside Press, 1930.
- Benson, Mary Sumner. <u>Women in Eighteenth Century America</u>. New York: Columbia University Press, 1935.
- <u>A Booke of Secrets</u> . . . . Translated by W. P. London: Adam Islip, 1596.
- Boyle, Robert. <u>Experiments and Considerations Touching Colours</u>. London: n.p., 1664. Reprinted by New York: Johnson Reprint Corp., 1964.
- Bridenbaugh, Carl. <u>Cities in Revolt:</u> Urban Life in America, <u>1743 1776</u>. New York: Alfred A. Knopf, 1955.
- Bridenbaugh, Carl. The Colonial Craftsman. Chicago: Phoenix Books, 1961.
- Britton, Nathaniel Lord and Addison Brown. <u>An Illustrated Flora of the</u> <u>Northern United States, Canada and the British Possessions.</u> Vol. I, II, III. New York: Charles Scribner's Sons, 1913.
- Brockman, C. F. Trees of North America. New York: Golden Press, 1968.
- Brown, Ralph H. <u>Historical Geography of the United States</u>. New York: Harcourt, Brace and World Inc., 1948.
- Carrier, Lyman. The Beginnings of Agriculture in America. New York: McGraw Hill Book Co. Inc., 1923.
- Collins, Henry Hill, Jr. <u>Complete Field Guide to American Wildlife</u>. New York: Harper and Bros., 1959.

- Comstock, Helen, ed. <u>The Concise Encyclopedia of American Antiques</u>. Vol. I. New York: Hawthorn Books, Inc., n.d.
- Creevey, Caroline A. <u>Flowers of Field, Hill and Swamp</u>. New York: Harper and Bros., 1897.
- Davis, Mildred J. <u>The Art of Crewel Embroidery</u>. New York: Crown Publishers Inc., 1962.
- Davis, Mildred J. <u>Early American Embroidery Designs</u>. New York: Crown Publishers Inc., 1969.
- "Deerfield Textiles." Antiques (September 1956), pp. 343-47.
- Dow, George Francis. <u>The Arts and Crafts in New England</u>, <u>1704 1755</u>. Topsfield, Massachusetts: The Wayside Press, 1927.
- Dumond, Dwight L. <u>A History of the United States</u>. New York: Henry Holt and Co., 1942.
- Dye Plants and Dyeing. New York: Brooklyn Botanical Garden, 1964.
- Earle, Alice Morse. <u>Colonial Dames and Good Wives</u>. New York: Frederick Ungar Publications Co., 1895.
- Earle, Alice Morse. <u>Old Time Gardens</u>. New York: The Macmillan Co., 1901.
- Flexner, James Thomas. <u>American Painting: First Flowers of Our</u> Wilderness. Boston: Houghton Mifflin Co., 1947.
- Flexner, James Thomas. <u>America's Old Masters:</u> First Artists of the New World. New York: The Viking Press, 1939.
- Groves, Sylvia. <u>The History of Needlework Tools and Accessories</u>. London: Billing and Sons Limited, 1966.
- Guilford, J. P. <u>Fundamental Statistics in Psychology and Education</u>. 3rd. ed. New York: McGraw Hill Book Co., 1956.
- Haigh, James. The Dier's Assistant in the Art of Dying Wool and Woollen Goods. Poughkeepsie, New York: Paraclete Potter, 1813.
- Hamlin, A. D. F. <u>A History of Ornament</u>. New York: The Century Co., 1923.
- Harbeson, Georgiana Brown. <u>American Needlework</u>. New York: Bonanza Books, 1938.
- Hornung, Clarence H. Treasury of American Design. Vol. I. New York: Harry N. Abrams, Inc., 1950.

- Howells, John Mead. Lost Examples of Colonial Architecture. New York: William Helburn Inc., 1931.
- Irwin, John and P. R. Schwartz. <u>Studies in Indo-European Textile History</u>. Ahmedabad, India: Calico Museum of Textiles, 1966.
- Josselyn, John. <u>An Account of Two Voyages to New England</u>. London: Giles Widdows, 1674.
- Josselyn, John. <u>New England's Rarities Discovered</u>. London, 1672. Reprinted in <u>Transactions and Collections of the American Antiquarian</u> Society. Vol. IV. Boston: John Wilson and Son, 1860, pp. 133-238.
- Kimball, Fiske. Domestic Architecture of the American Colonies and of the Early Republic. New York: Charles Scribner's Sons, 1922.
- Kramer, Jack. <u>Natural Dyes</u>; <u>Plants and Processes</u>. New York: Charles Scribner's Sons, 1972.
- Kraus, Michael. Intercolonial Aspects of American Culture on the Eve of the Revolution. New York: Columbia University Press, 1928.
- Leighton, Ann. <u>Early American Gardens for Meate or Medicine</u>. Boston: Houghton Mifflin Co., 1970.
- Lindroth, Carl H. <u>The Faunal Connections between Europe and North</u> America. New York: Wiley, 1957.
- Little, Francis. <u>Early American Textiles</u>. New York: The Century Co., 1931.
- Mather, Cotton. Ornaments for the Daughters of Zion. 3rd ed. Boston: Kneeland and Green, 1741.
- Miller, Ellen and Margaret C. Whiting. <u>Wild Flowers of the Northeastern</u> States. New York: G. P. Putnam's Sons, 1895.
- Natural Plant Dyeing. New York: Brooklyn Botanical Gardens, 1973.
- One Thousand Valuable Secrets, In the Elegant and Useful Arts. Philadelphia: B. Davis and T. Stephen, 1795.
- Publication Manual of the American Psychological Association. Washington, D.C.: American Psychological Association, Inc., 1967.
- Robinson, Stuart. <u>A History of Dyed Textiles</u>. London: Studio Vista, 1969.
- Rosetti, Gioaventura. <u>The Plictho</u>. Venice: n.p., 1548. Translated by S. Edelstein and H. Borghetty. Cambridge, Massachusetts: The M.I.T. Press, 1969.

- Ruscelli, Girolamo. <u>The Seconde Parte of the Secretes of Master Alexis</u> of Piemont . . . London: Jhon Kyngston, 1560.
- Ruscelli, Girolamo. <u>The Thyrde and Last Parte of the Secretes of the</u> <u>Reverende Maister Alexis of Piemont</u> . . . London: Roulande Hall, 1562.
- Scharff, Robert Francis. <u>Distribution and Origin of Life in America</u>. London: Constable and Company Ltd., 1911.
- Stearns, Martha Genung. <u>Homespun and Blue: A Study of American Crewel</u> Embroidery. New York: Bonanza Books, n.d.
- "Stitches in Time: An Exhibition of Embroideries and Needlework Techniques." Cooper Square, New York: Cooper Union Museum, 1947.
- Taylor, Raymond L. <u>Plants of Colonial Days</u>. Williamsburg, Virginia: Colonial Williamsburg Inc., 1952.
- Wilson, Erica. <u>Crewel Embroidery</u>. New York: Charles Scribner's Sons, 1962.

APPENDICES

APPENDIX A

### APPENDIX A

# NAMES AND ADDRESSES FROM MUSEUM CORRESPONDENCE

The following is a list of those museums and historic sites initially contacted prior to the data collection process. An assessment of the colonial crewel embroidery collection at each location was made, based upon correspondence with the individual textile curators.

The Art Institute of Chicago

Michigan Avenue at Adams Street Chicago, Illinois 60603

Colonial Crewel Collection: only two or three items documented as being colonial American.

The Brooklyn Museum

Eastern Parkway Brooklyn, New York 11238

Colonial Crewel Collection: of the examples of American crewel work, very few can be positively identified as having been created within New England.

The Colonial Williamsburg Foundation

Williamsburg, Virginia 23185

Colonial Crewel Collection: very good.

Essex Institute

Salem Massachusetts 01970

Colonial Crewel Collection: very good.

Historic Deerfield, Inc.

Deerfield, Massachusetts 01342

Colonial Crewel Collection: extensive.

# Jeremiah Lee Mansion

Marblehead, Massachusetts

Colonial Crewel Collection: one complete bedset.

# The Metropolitan Museum of Art

New York, New York 10028

Colonial Crewel Collection: no more than five or six items accurately documented as being from New England during the colonial period.

## Museum of Fine Arts

Boston, Massachusetts 02115

Colonial Crewel Collection: extensive.

National Society of the Colonial Dames of America

Connecticut Chapter 211 Main Street Wethersfield, Connecticut 06109

Colonial Crewel Collection: a good collection of American crewels, in good condition, and most documented as to maker.

# New York State Historical Association

Cooperstown, New York 13326

Colonial Crewel Collection: only a few examples of crewel embroidery.

### Plimoth Plantation

P.O. Box 1620 Plymouth, Massachusetts 02360

Colonial Crewel Collection: reproductions only, the originals having been destroyed by fire.

# Smithsonian Institute

Washington, D. C.

Colonial Crewel Collection: good.

# Wadsworth Atheneum

Hartford, Connecticut 06103

Colonial Crewel Collection: not a large collection, but one with very interesting pieces.

APPENDIX B

# APPENDIX B

ILLUSTRATION OF THE STITCH TECHNIQUES



BACK STITCH



BULLION KNOT



BUTTONHOLE STITCH



CHAIN STITCH





STAR STITCH



SATIN STITCH



SPLIT STITCH



STRAIGHT STITCH



TEAR STITCH

APPENDIX C

# APPENDIX C

# ILLUSTRATIONS OF THE EIGHTY-ONE DESIGN MOTIFS

ANIMAL LIFE DESIGNS









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5.

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PLANT LIFE DESIGNS

Flowers





12.





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24.

25.



27.









32.



Leaves





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52.











72.





Tree Types

74.

76.















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APPENDIX D

#### APPENDIX D

# VERIFICATION OF ENVIRONMENTAL ASPECTS

#### Design One

- <u>Chickens</u>: In 1623, messengers were sent from the camp of Massasoit to Plymouth, requesting chickens. Massasoit was ill, and desired some healing chicken broth. Fowl, such as chickens, were an important domestic meat source to the colonists, having been easily transported across the Atlantic [Carrier, 1923, p. 258].
- Ducks: Captain Edward Johnson, describing the colonies in 1642, wrote, ". . flesh is now no rare food . . . being frequent . . . Poultry they have plenty . . . " Ducks were among the domestic fowl brought to America by the colonists [Carrier, 1923, pp. 148, 258]. John Josselyn, describing New England in the 1600's, stated that "there be four sorts of Ducks, a black Duck, a brown Duck, . . . a grey Duck and a great black and white Duck" [Josselyn, 1674, p. 101].
- <u>Geese</u>: Upon the arrival of his son, John Winthrop, Jr. from England, John Winthrop, Sr. included the following entry within his journal: "The people . . . came to welcome them and brought . . . poultry, geese, . . . etc. . . and on November 11, 1631 we kept a day of Thanksgiving at Boston." The early New England settlers had brought domestic geese with them from England [Carrier, 1923, pp. 144, 258]. John Josselyn noted three varieties of geese within seventeenth century New England: "the gray goose, the white goose, and the brant" [Josselyn, 1672, p. 143].
- <u>Miscellaneous Native Birds</u>: The following birds were listed within the seventeenth century writings of John Josselyn, as having been found within New England: troculus ("a small bird, black and white . . . ."), pilhannaw ("a kind of hawk"), gripe, osprey, wobble ("an ill-shaped fowl"), loone, owl, turkie-buzzard [Josselyn, 1672, pp. 142 147], crow, raven, pidgeon, snow bird, thressel, filladie, ninmurder, woodlark, wren, swallow, wag-tail, dishwater, titmouse, crane, coot, teal, gull, heron, bittern, keen, petterel, and kingfisher [Josselyn, 1674, pp. 96-101].
- Partridges: John Winthrop, following the arrival of his son, John Winthrop, Jr., from England, wrote, "The people . . . came to welcome them and brought . . . partridges, etc. . . . and on November 11, 1631 we kept a day of Thanksgiving at Boston [Carrier, 1923, p. 144].

<u>Turkeys</u>: The supply list for the Endicott expedition in 1628 included, "... tame Turkeys." While domesticated turkeys were brought with the colonists from England, wild turkeys were abundant within the forests of New England [Carrier, 1923, pp. 143, 258].

## Design Two

- <u>Caribou</u>: John Josselyn, writing in 1672, mentioned "the maccarib . . . caribo, or pohano; a kind of deer . . . ." as being found within New England [Josselyn, 1672, p. 154].
- Deer: John Winthrop, following the arrival of his son, John Winthrop, Jr. from England, wrote, "The people . . . came to welcome them and brought . . . venison . . . and on November 11, 1631 we kept a day of Thanksgiving at Boston" [Carrier, 1923, p. 144].
- Elk: Elk, or moose, native to North America, roamed from Nova Scotia to Alaska, and as far south as Wyoming [Lindroth, 1957, p. 19]. John Josselyn recorded the "moose-deer" within his description of seventeenth century New England, and referred to it as "a very goodly creature" [Josselyn, 1672, p. 153].

## Design Three

- Bees: During the colonial period, cane sugar was scarce within New England. Bees were kept for their honey, which was used as a substitute for flavoring food and preserving fruit [Carrier, 1923, p. 258].
- <u>Fireflies</u>: John Josselyn noted a "Flying Gloworm . . . flying in dark summer nights" in colonial New England [Josselyn, 1672, p. 170].
- <u>Miscellaneous Native Insects</u>: John Josselyn found the following insects within colonial New England: "a Bug . . . like a beetle" [Josselyn, 1672, p. 170], millipede, cockroach ("a stinking black and red Bug . . ."), grasshopper, cricket and dragonfly [Josselyn, 1674, pp. 116-22].
- <u>Mosquitoes</u>: During the seventeenth century, Josselyn wrote that within New England, "the country is strangely incommodated with flyes, which the English call Musketaes . . ." [Josselyn, 1674, p. 121].
- <u>Wasps</u>: John Josselyn, describing seventeenth century New England, wrote, "The wasp . . . in this are . . . black and white . . ." [Josselyn, 1672, p. 170].

## Design Four

- Dogs: Portraits painted within colonial America, indicate that dogs were kept as domestic pets. John Singleton Copley, a popular portrait painter in Boston during the 1760's, included an English spaniel in his picture of Mary Warner. Similarly, dogs were illustrated in "David Hall," "Conversation Piece," and "The William Denning Family" by William Williams. Williams was an English painter who traveled within the colonies for a period of approximately forty years. Two unsigned paintings, believed to have been created within the American colonies, depict the colonists engaged in fox hunting, with hounds: "The End of the Fox Hunt," and "Chimney Piece" [Flexner, 1947, pp. 231, 265, 163, 170]. Josselyn wrote that "dogs are as common as in England," when he described New England in 1674 [Josselyn, 1674, p. 192].
- Fox, Red: The red fox (Vulpes Vulpes) is native to North America, ranging from Newfoundland to Alaska, and as far south as Mexico. The colonists were familiar with the red fox, as it is also native to northern Europe [Lindroth, 1957, p. 19]. Two unsigned paintings believed to have been created within the American colonies, depict the colonists engaged in fox hunting, with hounds: "The End of the Fox Hunt," and "Chimney Piece" [Flexner, 1947, p. 170]. John Josselyn recorded seeing a native fox"... which differeth not much from ours" in colonial New England [Josselyn, 1672, p. 155].
- <u>Jackal</u>: John Josselyn, writing in 1672, noted "jaccal . . . ordinarily less than foxes, of the colour of a gray rabbit . . ." within New England [Josselyn, 1672, p. 156].
- <u>Wolves</u>: John Winthrop wrote within his journal in 1630, "The wolves killed six calves at Salem and they killed one wolf . . . The wolves killed some swine in Saugus" [Carrier, 1923, p. 144].

### Design Five

Squirrels: In 1765, John Singleton Copley, a popular Boston portrait painter, created a picture depicting a colonial boy with a pet squirrel, aptly entitled, "Boy with Squirrel" [Flexner, 1947, p. 329]. The presence of squirrels upon the American continent dates back to the Miocene period. Squirrels indigenous to the New England area include: gray squirrel, red squirrel, southern flying squirrel, and northern flying squirrel [Collins, 1959, p. 278].

# Design Six

Sheep: John Josselyn, describing the Winthrop expedition of 1630. wrote, "The passage of people in the eagle and nine other vessels to New England came to 9,500 pounds. The . . . [livestock, including] sheep . . . cost to transport 12,000 pounds." In 1636, the leaders of the Plymouth colony ordered, "That whatever damage came to any by . . . sheepe . . . breaking into mens sufficient enclosures it shall be lawful for the persons so damnified to impound them . . . . " Captain Edward Johnson, describing the colonies in 1642, wrote, "flesh is now no rare food . . . mutton being frequent. There are supposed to be in the Mattachusets Government at this day . . . about three thousand sheep." The Plymouth colony, endeavoring to increase the number of sheep within the colony, passed the following embargo in 1737: "That no sheepe be sould out of the colonys if competent price will be herre given for them" [Carrier, 1923, pp. 143, 146, 148].

#### Design Seven

Rabbits: The presence of rabbits upon the American continent dates back to the Eocene period. These rabbits have evidenced extraordinary adaptability and proliferation. Rabbits indigenous to the New England area include: snowshoe rabbit, eastern cottontail, and New England cottontail [Collins, 1959, p. 273]. John Josselyn wrote of seeing a "hare . . . no bigger than our English rabbits . . . ." within seventeenth century New England [Josselyn, 1672, p. 156].

## Design Eight

<u>Goats</u>: The leaders of the Endicott expedition to New England, declared in 1628 that "such . . . Goates as are shipped by Mr. Cradock, are to bee devyded in Equall halves twixt him and the Companie." John Josselyn, describing the Winthrop expedition in 1630, wrote, "The passage of the people in the eagle and nine other vessels to New England came to 9,500 pounds. The . . . [livestock, including] Goats . . . cost to transport 12,000 pounds . . . ." The meat of "kids" was served during the Thanksgiving feast in Boston, on November 11, 1631. In 1636, the leaders in Plymouth ordered, "That whatever damage came to any by . . . goats . . breaking into mens sufficient enclosures it shall be lawful for the persons so damnified to impound them . . . ." [Carrier, 1923, pp. 143, 144, 146].

#### Design Ten

Floor length gown with scooped neck and full skirt: Portraits painted within colonial America evidence the popularity of this garment style. In "The Greenwood and Lee Families," by John Greenwood (the son of a Massachusetts merchant), five women are shown wearing similar dresses. Likewise, portraits by Robert Feke (another New England painter) illustrate this garment, including "Isaac Royall and Family," "Mrs. William Peters," and "Young Girl in Flower." John Smibert, an English-born artist who settled in the colonies in 1729, also depicted this fashionable style in his portrait, "Jane Clark" [Flexner, 1947, pp. 200, 132, 142, 146, 128].

### Design Eleven

- <u>Arach</u>: (Atriplex hortensis) The papers of John Winthrop, Jr. indicate that on July 26, 1631, he purchased arach ("orradg") seeds from Robert Hill, grocer [Leighton, 1970, p. 190]. John Josselyn noted "wild arrach" growing within New England [Josselyn, 1672, p. 217].
- <u>Autumn Crocus</u>: (Colchicum autumnale) This flower was advertised for sale in a Boston newspaper in 1760. Other common names include meadow saffron and Michaelmas crocus [Taylor, 1952, p. 14].
- <u>Bloodroot</u>: (Sanquinaria canadensis) The bloodroot, a native member of the poppy family, was introduced to the early New England settlers by the Indians, as a dye source. It is also mentioned within the writings of Cotton Mather [Leighton, 1970, p. 253].
- Dittander: (Lepidum latifolium) John Josselyn, a seventeenth century botonist, wrote that "Dittander or Pepper Wort flourisheth notably" in New England gardens [Josselyn, 1672, p. 224]. John Winthrop, writing to his son John Winthrop, Jr., promised to send "some pepper-worte roots" [Leighton, 1970, p. 293].
- <u>Pumpkin</u>: (Cucurbita pepo) The writings of John Josselyn include comments about the pumpkin plant, and a recipe for pumpkin pie [Josselyn, 1672, p. 224]. In 1631, John Winthrop, Jr. purchased "8 oz. pompion seed at 2 s. 8 d. per 1i" [Leighton, 1970, p. 190]. In 1642, Captain Edward Johnson wrote, "the poorest person . . . hath . . . apples, pears and quince tarts instead of their Pumpkin Pies" [Carrier, 1923, p. 148].
- <u>Tulip</u>: (Tulipa) Fifty different varieties of tulip bulbs were offered for sale within an advertisement in Boston, dated March 30, 1760 [Taylor, 1952, p. 88]. Mr. Hancock of Boston wrote, prior to the Revolution, "... my hearty Thanks for the ... Tulip Roots you were pleased to make me a Present off, which are very Acceptable to me ...." [Earle, 1901, p. 30].

- Water Lily: (Nympha odorata) The yellow pond lily and the fragrant water lily are both native plants [Leighton, 1970, p. 329]. John Josselyn, writing about water lilies, remarked that, "the black roots dryed and pulverized are wondrous effectual in the stopping of all manner of fluxes of the belly . . . ." [Josselyn, 1674, p. 80]. He also noted that "the Indians eat the roots, which are long aboiling. They taste like the liver of a sheep" [Josselyn, 1672, p. 176].
- <u>Wild Garlic</u>: (Allium sativum or Allium canadense) The wild garlic is mentioned within the writings of Cotton Mather [Leighton, 1970, p. 274]. John Josselyn noted "wild leekes, which the Indians use much to eat with their fish" [Josselyn, 1672, p. 188].

#### Design Twelve

<u>Rose</u>: (Rosa) In 1634, Joseph Downing of England wrote to John Winthrop, Jr., "If you . . . have no roses there, I will send you over some damaske, red, white, and province rose plants . . ." William Bradford wrote of the "fragrant rose" found in gardens in Plymouth [Leighton, 1970, p. 380]. John Josselyn, noted "wild damaske roses . . . very large and sweet" [Josselyn, 1672, p. 195] and "English roses" which grew "very pleasantly" [Josselyn, 1672, p. 224]. Roses were used to symbolize the royal Tudor lineage of England, and later the colonial Whig party. The Rosa Americana, a coin minted in England for use in the colonies, and the stamps issued under the Stamp Act of 1756, contained a rose design [Stearns, n.d., p. 26].

### Design Thirteen

- <u>Apples</u>: (Malus) Mr. Blackstone, a former minister of the Church of England, planted an apple orchard on the Boston peninsula, prior to the arrival of the Puritans [Leighton, 1970, p. 240]. Early settlers used the bark of cultivated and native apple trees to produce a yellow tan dye, when combined with an alum mordant [<u>Dye Plants and Dyeing</u>, 1964, p. 94]. "Stones of all sorts of fruites, as . . . apples . . . ." were included within the Endicott expedition of 1628. In 1642, Captain Edward Johnson wrote, "flesh is now no rare food, . . . being frequent . . . apples . . . instead of . . . Pumpkin Pies" [Carrier, 1923, pp. 143, 148].
- <u>Blackberry</u>: (Rubus) New England blackberries are mentioned in the writings of Cotton Mather and the botanical accounts of John Josselyn [Leighton, 1970, p. 251].

- <u>Blue Phlox</u>: (Phlox divaricata) Blue phlox are native to the eastern portion of North America, and are believed to have been adopted into colonial gardens. Other common names include wild blue phlox and wild sweet William [Taylor, 1952, p. 17].
- Borage: (Borraginaceae) On July 26, 1631, John Winthrop, Jr., purchased "1 oz. Buradge seed at 4 d." from Robert Hill, grocer. John Parkinson, whose <u>Paradisi In Sole Paradisus Terrestris</u> was available in New England libraries, included illustrations of borage in his botanical writings because "ladies like to show them in their needlework" [Leighton, 1970, pp. 190, 178].
- Bouncing Bet: (Saponaria officinalis) This plant was introduced into the colonies from England. The leaves, when bruised, produce a lather which was used in substitution for soap by the colonists [Taylor, 1952, p. 18]. Bouncing Bet was also used to treat poison ivy [Leighton, 1970, p. 258].
- <u>Cherry</u>: (Prunus) William Wood, describing trees native to New England, wrote, "Within this Indian Orchard fruites be some, The ruddie Cherrie and the jettie Plumbe" [Leighton, 1970, p. 271]. The Endicott expedition of 1628 was ordered to include ". . . stones of all sorts of fruites, as . . . filberts cherries . . . ." [Carrier, 1923, p. 143].
- <u>Cinquefoil</u>: (Potentilla) Cinquefoil, introduced into the colonies after the arrival of settlers, was found in early American gardens [Leighton, 1970, p. 275]. John Josselyn recommended "cink-foil" for agues [Josselyn, 1672, p. 179].
- <u>Cowslip</u>: (Caltha palustris) Cotton Mather recommended Diacodium (made from poppies) in "cowslip Water" as a cure for smallpox. It is believed that he later sent this plant to the Royal Society, as a species unique to New England [Leighton, 1970, p. 285].
- Dovesfoot: (Geranium columbinum) John Josselyn mentioned this naturalized plant within his botanical writings, as being good for "swelled legs" [Josselyn, 1672, p. 177].
- Flax: (Linum usitatissimum) This cultivated plant was introduced into the colonies by the early settlers. John Josselyn mentioned that "flax and hempe flourish gallantly" [Josselyn, 1674, p. 188]. Other common names include linseed and lintbells [Leighton, 1970, p. 304]. "Fflaxe seed agenst wynter" was one of the items included within the Endicott expedition to New England in 1628 [Carrier, 1923, p. 143].
- Herb Robert: (Geranium Robertianum) John Josselyn noted herb Robert during his travels within New England [Josselyn, 1672, p. 176].

- Herb Twopence: (Lysimachia Nummularia) Herb twopence was introduced into the colonies with the arrival of the early settlers [Leighton, 1970, p. 312].
- Indian Pink: (Quamoclit Quamoclit) Indian pink was offered for sale within a Boston advertisement, dated March 30, 1760 [Earle, 1901, p. 33].
- Laurel, Mountain: (Kalmia latifolia) There are numerous references to this native shrub within colonial records. Other common names include American laurel and calico bush [Taylor, 1952, p. 60].
- Laurel, Sheep: (Kalmia augustifolia) Sheep laurel, which grew wild within the colonies, was used as a dye source by the colonists. Combined with alum and copperas mordants, it produced an olive green color [Dye Plants and Dyeing, 1964, p. 94].
- <u>Mullein:</u> (Verbascum Lychnitis) John Josselyn, who recorded mullein "with white flowers," believed this plant to have been introduced into the colonies by the English [Josselyn, 1672, p. 219].
- Oak of Jerusalem: (Chenopodium Botrys) John Josselyn found the "Oak of Hierusalem" growing within the New England colonies, and recommended it for "stuffing of the lungs upon colds, shortness of wind, and the ptisick . . . " [Josselyn, 1672, p. 178].
- <u>Orpine</u>: (Sedum Telephium) Orpine, also known as stone crop and liveforever, was introduced into the colonies by the settlers [Leighton, 1970, p. 352]. John Josselyn prepared a remedy for scurvy, using orpine [Josselyn, 1674, p. 76].
- <u>Peach</u>: (Amygdalus persica) The supply list for the Endicott expedition of 1628 included, "stones of all sorts of fruites, as peaches . . . ." [Carrier, 1923, p. 143]. Peach tree leaves and bark were used to produce a yellow dye, within colonial New England [Adrosko, 1968, p. 36].
- Pear: (Pyrus communis) Pear seeds were among the items brought to New England by the Endicott expedition in 1628 [Carrier, 1923, p. 143]. In 1634, Francis Kirby wrote that Joseph Downing of England was sending one hundred apple and pear trees to John Winthrop [Leighton, 1970, p. 360]. Captain Edward Johnson wrote in 1642, "flesh is now no rare food, . . . being frequent . . . pears . . . instead of . . . Pumpkin Pies [Carrier, 1923, p. 148].
- <u>Pimpernel</u>: (Anagallis arvensis) The "blew flowered pimpernell" was seen growing within the New England colonies, by John Josselyn (Josselyn, 1672, p. 180].
- Plum: (Prunus maritima) Colonial botonist William Wood, wrote about New England plums. Both native and introduced varieties were available [Leighton, 1970, p. 366]. In 1621, Edward Winslow wrote from Plymouth, "Here are . . . plums of three sorts, white, black and red, being almost as good as a damson" [Carrier, 1923, p. 31]. John Josselyn recorded of the "plumbtree, several kinds; bearing some long, rounded, white, yellow, red, and black plums. . ." [Josselyn, 1672, p. 185].
- <u>Pomegranate</u>: (Prunus nigra) The Endicott expedition of 1628 included "stones of all sorts of fruites, as . . . pomegranate . . . ." [Carrier, 1923, p. 143].
- <u>Purslane</u>: (Portulaca oleracea) In 1631, John Winthrop, Jr. purchased "1 oz. pursland seed at 4 d." Both William Wood and John Josselyn noted "Wild Purcelane" growing within New England [Leighton, 1970, pp. 190, 371, 372; Josselyn, 1672, p. 185].
- Ranunculus: (Ranunculus) This plant, commonly known as a buttercup, was one of several advertised within a Boston newspaper, dated March 30, 1760 [Earle, 1901, p. 34].
- <u>Raspberry</u>: (Rubus) John Josselyn wrote of New England raspberries, stating "Rasp-berry, here called Mul-berry" [Josselyn, 1672, p. 180].
- Rose Pennywort: (Saxifraga virginiensis) John Josselyn mentioned this plant, and also referred to it as the "New England Daysie or Primrose" [Josselyn, 1672, p. 174].
- Saint Johnswort: (Hypericum perforatum) John Josselyn recommended using this plant to preserve cheese, during sea travel [Josselyn, 1674, p. 78]. Colonists also used it as a natural dye source, in combination with an alum mordant. Picked in July, Saint Johnswort produced a gray color, while picked in August, it produced greenish yellow [Dye Plants and Dyeing, 1964, p. 94].
- Strawberry: (Fragaria) Roger Williams praised the native American strawberry, when he wrote in 1643, "This Berry (strawberry) is the wonder of all the Fruits growing naturally in those parts; it is of itself excellent so that one of the chiefest Doctors of England was wont to say . . . God never did make a better Berry . . . " The American Indians mixed strawberries with ground meale to produce a strawberry bread [Carrier, 1923, p. 30]. John Josselyn included the strawberry within his botanical notes [Josselyn, 1672, p. 177].
- Sweet William: (Dianthus barbatus) Sweet William introduced from England, was offered for sale in a Boston newspaper on March 30, 1760 [Earle, 1901, p. 34].

- <u>Violet</u>: (Violet sororia) On July 20, 1631, Robert Hill, grocer sold "violett seeds" to John Winthrop, Jr. [Leighton, 1970, p. 190]. John Josselyn listed three kinds of violets, "the white violet, which is sweet . . . , blew violet, without sent, and reddish violet without sent" [Josselyn, 1672, p. 176].
- <u>Wild Cherry</u>: (Padus virginiana) The American colonists used the branches and leaves of the wild cherry to produce a yellow dye [Harbeson, 1938, p. 30]. In the seventeenth century, Josselyn wrote, "Wild cherry, they grow in clusters . . . blackish-red when ripe, and of a harsh taste" [Josselyn, 1672, p. 197].
- <u>Wood Sorrel</u>: (Acetosella exalis) Colonial botonists William Wood and John Josselyn noted wood sorrel growing within New England [Leighton, 1970, p. 395; Josselyn, 1672, p. 172].

### Design Fourteen

- <u>Carnations</u>: (Dianthus caryophyllus) Colonial writings refer frequently to carnations. Within a chapter entitled "such Garden Herbs (amongst us) as do thrive . . ." John Josselyn stated that the "Gilly Flowers will continue two Years" [Josselyn, 1672, p. 223]. Carnations, which were a favorite in early American gardens, were introduced by the colonists [Leighton, 1970, pp. 277, 278].
- <u>Coreopsis</u>: (Coreopsis lanceolata) Although the coreopsis is a native plant in eastern North America, it was adopted into colonial gardens. It is also commonly known as tickseed [Taylor, 1952, p. 28].
- <u>Gentian</u>: (Gentiana crinata) Cotton Mather recommended taking gentian with rhubarb and anise, being one of several "easy purges" [Leighton, 1970, p. 308].
- Sweet William: (Dianthus barbatus) See page 135.

#### Design Fifteen

Carnations: (Dianthus Caryophyllus) See page 136.

<u>Coltsfoot</u>: (Tussilago Farfara) Cotton Mather recommended "a pectoral Decoction of Hysop, Coltsfoot, Liquerice, and the like, sweetened with Syrup of Poppy-Heads" for a "troublesome" cough. Coltsfoot was introduced into the colonies from England [Leighton, 1970, p. 280].

Coreopsis: (Coreopsis lanceolata) See page 136.

Sweet William: (Dianthus barbatus) See page 135.

#### Design Sixteen

Dovesfoot: (Geranium columbinum) See page 133.

#### Design Seventeen

Borage: (Borraginaceae) See page 133.

Bouncing Bet: (Saponaria officinalis) See page 133.

- Calamint: (Satureia calamintha) The calamint was used by the colonists as a remedy for diverse ailments. It is an introduced plant which was grown within early American gardens [Leighton, 1970, p. 263].
- <u>Catchfly</u>: (Silene conica) Catchfly was offered for sale in a Boston newspaper, dated March 30, 1760. It was introduced into this country from Europe [Earle, 1901, p. 33].
- Lettuce: (Lactuca sativa) John Winthrop, Jr. purchased "3 oz. lettice seeds 2 d. per oz." from Robert Hill, grocer, in 1631 [Leighton, 1970, p. 190]. John Josselyn recorded "lettice" as being a herb that "amongst us as do thrive . . . " [Josselyn, 1672, p. 220].
- <u>Plantain</u>: (Plantago major) This plant, also known as white man's foot, was mentioned within the writings of both Cotton Mather and John Josselyn [Leighton, 1970, p. 366; Josselyn, 1672, p. 220].
- Rocket: (Eruca sativa) In 1631, Robert Hill, grocer, sold "1/2 oz. Rockett seed at 4 d. per oz." to John Winthrop, Jr. [Leighton, 1970, pp. 190].
- <u>Trumpet Creeper</u>: (Campsis radicans) This native vine, which "creeps" over the ground, was grown within early American gardens. Other common names include trumpet vine, trumpet flower, and cow-itch [Taylor, 1952, p. 87].

### Design Nineteen

- Artichoke, Jerusalem: (Helianthus tuberosus) The Jerusalem artichoke was an American Indian food source which was later exported to England [Leighton, 1970, p. 245].
- Black-eyed Susan: (Rudbeckia hirta) This plant, native to eastern North America, was exported to England in 1714. Other common names include coneflower and yellow daisy [Taylor, 1952, p. 16].
- <u>Camomile</u>: (Anthemis nobilis) American colonists valued camomile as a herbal remedy for many ailments, and included it within their gardens [Leighton, 1970, pp. 265, 266].

- Houseleek: (Sempervivum tectorum) John Josselyn wrote the "Houseleek prospereth notably" [Josselyn, 1672, p. 223]. This plant is also known as hens and chickens [Leighton, 1970, p. 318].
- <u>Maudlin</u>: (Chrysanthemum leucanthemum) John Winthrop, Jr. purchased "1/2 oz. maudlin seed" from Robert Hill, grocer, on July 26, 1631 [Leighton, 1970, p. 190].
- <u>New England Daisie</u>: (Saxifraga virginiana) According to John Josselyn, the New England daisie "flowers in May and grows amongst Moss upon hilly Ground and Rocks that are shady. It is very good for Burns and Scalds" [Josselyn, 1672, p. 194].
- Sunflower, American: (Helianthemum strumosus) Concerning the American sunflower, John Josselyn wrote, "Marygold of Peru, of which there are two kinds--one bearing black seeds, the other black and white streaked," and accompanied this statement with an illustration [Josselyn, 1672, p. 192].
- Star-of-Bethlehem: (Ornithogalum umbellatum) This plant was advertised within a Boston newspaper on March 30, 1760 [Taylor, 1952, p. 79].
- Sweet Scabious: (Erigeron annuus) Sweet scabious was one of several plants listed within a Boston advertisement, dated March 30, 1760 [Earle, 1901, p. 34].

### Design Twenty

- Calendula: (Calendula officinalis) This plant was also known as Mary's gold [Taylor, 1952, p. 19]. John Josselyn wrote that "Marygold . . . groweth very well in New England" and listed it under "such Garden Herbs (amongst us) as do thrive . . . " [Josselyn, 1672, p. 221].
- Coltsfoot: (Tussilago Farfara) See page 136.
- Dandelion: (Tararaxacum dens lionis) John Josselyn included the dandelion within the chapter entitled "Of such Plants as have sprung up since the English Planted and kept Cattle in New England" [Josselyn, 1672, p. 216].
- Hawkweed: (Hieracium aurantiacum) "Red Hawkweed" was advertised within a Boston newspaper, dated March 30, 1760 [Earle, 1901, p. 33].
- Marigold, African: (Tagetes erecta) On July 26, 1631, Robert Hill, grocer, sold "1/2 oz. marigold at 2 d." to John Winthrop, Jr. [Leighton, 1970, p. 190]. Marigolds were also advertised within the March 30, 1760 issue of a Boston newspaper [Taylor, 1952, p. 11].

Mouse-ear: (Hieracium Philosella) Josselyn noted that this variety of hawkweed was common in both England and New England [Josselyn, 1672, p. 181].

### Design Twenty-one

- <u>Peony</u>: (Paeonia officinalis) The peony, used for its medicinal properties throughout history, is believed to have been grown within early American gardens [Leighton, 1970, pp. 362, 363].
- Rose: (Rosa) See page 132.

#### Design Twenty-two

- Adders Tongue: (Ophioglossum vulgatum) John Josselyn found adders tongue, "upon dry, hilly grounds . . . and did then make oyntment of the herb new gathered," the purpose of which is unknown [Josselyn, 1672, p. 172].
- Blue Greek Valerian: (Polemonium coeruleum) This plant, also known as Jacob's ladder, was introduced into New England during the colonial period [Leighton, 1970, p. 410].
- <u>Mountain Lily</u>: (Lilium canadense and Lilium superbum) Concerning mountain lilies, John Josselyn wrote, "... bearing many yellow Flowers, turning up their leaves like the Martagon, or Turks Cap, spotted with small spots as deep as Safforn, they Flower in July" [Josselyn, 1672, p. 188].
- Red Lily: (Lilium Philadelpricum and Lilium canadense) John Josselyn noted that "Red lilies grow all over the country innumerably amongst the small bushes, and flower in June" [Josselyn, 1672, p. 172].
- Tawny Daylily: (Hemerocallis fulca) This plant was grown within colonial gardens prior to 1700 [Taylor, 1952, p. 85].
- Yellow Adder's Tongue: (Erythronium americanum) John Josselyn refers to this plant, also known as a trout-lily or dog-tooth violet, as a "bastard daffodill" [Josselyn, 1672, p. 172].

Design Twenty-three

- Bloodroot: (Sanguinaria canadensis) See page 131.
- Carnation: (Dianthus caryophyllus) See page 136.
- Coreopsis: (Coreopsis lanceolata) See page 136.

Sweet William: (Dianthus barbatus) See page 135.

Tulip: (Tulipa) See page 131.

Water Lily: (Nymphaea odorata) See page 132.

# Design Twenty-five

Carnation: (Dianthus caryophyllus) See page 136.

Coreopsis: (Coreopsis lanceolata) See page 136.

- Endive: (Cichorium endiva) On July 26, 1631, Robert Hill, grocer, sold "1/2 oz. endive seed, 3 d. per oz." to John Winthrop, Jr. [Leighton, 1970, p. 190].
- Featherfew: (Chrysanthemum Parthenium) Cotton Mather prescribed using featherfew in a bag "bedewed with Rum," for toothaches [Leighton, 1970, p. 301]. John Josselyn noted that "Featherfew prospereth exceedingly." Another common name is feverfew [Josselyn, 1672, p. 222].
- <u>Coats-beard</u>: (Tragopogen pratensis) The early settlers used the roots of this plant as a remedy for numerous ailments [Leighton, 1970, p. 414].
- <u>Grass Pinks</u>: (Dianthus plumarius) An advertisement in the March 30, 1760 issue of a Boston newspaper included grass pinks in the list of seeds for sale [Taylor, 1952, p. 45].
- <u>Mayweed</u>: (Anthemis cotula) Listing mayweed under "such plants as have sprung up since the English planted and kept cattle in New England" John Josselyn noted that "... some of our English Housewives call it Iron Wort" [Josselyn, 1672, p. 219].
- Pellitory of Spain: (Pyrethrum inodorum) Cotton Mather recommended chewing Pellitory of Spain for a toothache [Leighton, 1970, p. 361].
- <u>Sneezewort:</u> (Achillea ptarmica) This plant, believed to cure sneezing, was introduced into New England during the colonial period [Leighton, 1970, p. 392].

Sweet William: (Dianthua barbatus) See page 135.

#### Design Twenty-six

Asparagus: (Asparagus officinalis) This plant, raised within early American gardens, was mentioned within the botanical writings of John Josselyn, as "thriving exceedingly" [Josselyn, 1672, p. 223].

- Bearberry: (Arctostaphyles uva-ursi) Josselyn noted that the ". . . bearberry . . . is a small trayling plant that grows in salt marshes." He stated that the berries "are excellent against the scurvy . . . also good to allay the fervour of hot diseases" (Josselyn, 1672, pp. 201, 202].
- <u>Blueberry</u>: (Vaccinium) John Josselyn referred to blueberries as "skycolored bilberries" and stated that they were used as a substitute for currants in pudding recipes [Josselyn, 1672, p. 196, 197].
- Canterbury Bell: (Campanula medium) Canterbury bells were advertised in a Boton newspaper, dated March 30, 1760 [Taylor, 1952, p. 19].
- Currant: (Ribes) John Josselyn noted "red and black currants" growing within the New England colonies [Josselyn, 1672, p. 186]. The Endicott expedition to New England in 1628 included "currant plants" [Carrier, 1923, p. 143].
- Huckleberry: (Gaylussacia) Native huckleberries were used as a food source by the Indians and New England colonists [Carrier, 1923, p. 30].
- Lungwort: (Mertensia virginica) This plant, also known as cowslip, was believed to be beneficial to the heart and lungs, and was grown within colonial gardens [Leighton, 1970, p. 333].
- Solomon's Seal: (Polygonatum) Josselyn listed several varieties of this plant as growing within New England, one of which had edible berries, and was often called "treacle-berries" [Josselyn, 1672, p. 176].

### Design Twenty-seven

- Catchfly: (Silene conica) See page 137.
- Plantain: (Plantago major) See page 137.
- Trumpet Creeper: (Campais radicans) See page 137.
- Tulip: (Tulipa) See page 131.

# Design Twenty-nine

<u>Columbine</u>: (Aquilegia vulgaris and Aquilegia canadensis) Josselyn noted "Columbine of a flesh colour growing upon rocks" [Josselyn 1672, p. 178]. John Winthrop, Jr. purchased "1 oz. Cullumbine seeds 3 d." on July 26, 1631, from Robert Hill, grocer [Leighton, 1970, pp. 190]. <u>Hops:</u> (Humulus Lupulus) Hops, which were used in raising bread and preserving and flavoring beer, were found growing wild in Maine. Many of the early settlers also brought hop seeds with them [Leighton, 1970, p. 315].

#### Design Thirty

Columbine: (Aquilegia vulgaris and Aquilegia canadensis) See page 141.

Hops: (Humulus Lupulus) See page 142.

#### Design Thirty-one

<u>Clover:</u> (Trifolium pratense) John Josselyn wrote that English "clover-grass" grew well in New England [Josselyn, 1674, p. 188]. This red clover was used by colonial farmers to condition worn-out soil, as a substitute for manure [Leighton, 1970, p. 279].

### Design Thirty-two

- <u>Alexanders</u>: (Angelica atrorurpurea) In 1631, John Winthrop, Jr. purchased "1 oz. Alisander seeds at 2 d." from Robert Hill, grocer [Leighton, 1970, p. 190]. Josselyn included "Alexanders, which grow upon rocks by the seashore" within his description of colonial New England [Josselyn, 1672, p. 178].
- Artichoke, Jerusalem: (Helianthus tuberosus) See page 137.
- Black-eyed Susan: (Rudbeckia hirta) See page 137.
- Calendula: (Calendula officinalis) See page 138.
- Camomile: (Anthemis nobilis) See page 137.
- <u>Caraway</u>: (Carum carui) This plant was introduced into New England during the colonial period, and was grown in early American gardens [Leighton, 1970, p. 267].
- Carrot: (Daucous carota sativa) Robert Hill, grocer, sold "1 1i. Carrett seed 12 d. per 1i." to John Winthrop, Jr. on July 26, 1631 [Leighton, 1970, p. 190].

Dandelion: (Tararaxacum dens lionis) See page 138.

- Elder: (Sambucus canadensis) The colonists used the elder berries as a food source, and brewed the leaves as a substitute for tea. The elder is a native plant, ranging over most of eastern North America [Taylor, 1952, p. 33]. John Josselyn recorded both elder and dwarf-elder within his list of New England plants, and recommended their use for cuts, bruises and burns [Josselyn, 1672, p. 182, 183].
- Hawkweed: (Hieracium aurantiacum) See page 138.
- Maudlin: (Chrysanthemum leucanthemum) See page 138.
- New England Daisie: (Saxifraga virginiana) See page 138.
- Parsley: (Petroselinum hortense) John Winthrop, Jr. purchased "4 oz. parsley seed at 16 d.per 1i." from Robert Hill, grocer, on July 26, 1631 [Leighton, 1970, pp. 190]. Parsley was also mentioned within the botanical writings of John Josselyn [Josselyn, 1672, p. 221].
- Parsnip: (Pastinaca sativa) John Josselyn, during his travels within New England, found "Parsnips of a prodigious size" [Josselyn, 1672, p. 221]. John Winthrop, Jr. purchased "1 1i. new parsnipp seed at 20 d." from Robert Hill, grocer, in 1631 [Leighton, 1970, pp. 355, 190].
- Sunflower, American: (Helianthemum strumosus) See page 138.
- Sweet Scabious: (Erigeron annuus) See page 138.
- Yarrow: (Achillea Millefolium) Samuel Sewall, a colonial resident of Massachusetts, wrote of gathering yarrow during the spring. Colonial botonists John Josselyn and William Wood also mention yarrow as growing within New England [Leighton, 1970, p. 418; Josselyn, 1672, p. 178].

Design Thirty-three

Rose: (Rosa) See page 132.

# Design Thirty-four

<u>Acanthus</u>: The Greek acanthus leaf is a design motif which was used extensively upon classical and Renaissance architecture. It was later adapted to use upon furniture. Colonial Chippendale style chairs (1750-1780) contained the acanthus motif on the knees of cabriole legs [Comstock, n.d., Vol. I, pp. 31, 39]. Colonial furniture dating from the William and Mary, and Queen Anne periods, also employed this design [Hamlin, 1923, p. 411 and Hornung, 1950, Vol. I, p. 201].

### Design Thirty-five

- Betony: (Stachys officinalis) Cotton Mather recommended betony for curing toothaches. His prescription involved placing the plant within the nose [Leighton, 1970, p. 253].
- Burnet: (Poterium sanguisorba) On July 26, 1631, John Winthrop, Jr. purchased "1 oz. Burnett 3 d." from Robert Hill, grocer, residing at the "three Angells in lumber street" [Leighton, 1970, p. 190]. John Josselyn listed burnet as being one of the "garden herbs amongst us as do thrive . . . " [Josselyn, 1672, p. 221].

# Design Thirty-six

- <u>Black Snakeroot</u>: (Sanicula Marylandica) John Winthrop believed it necessary to carry snakeroot when traveling within New England, although the reason for this was never recorded [Leighton, 1970, p. 392].
- <u>Bracken:</u> (Pteridium aquilinum) The early colonists used this plant, which was found growing wild, as a dye source. Combined with alum and copperas, it produced an olive green color [Dye Plants and Dyeing, 1964, p. 94].
- <u>Cabbage</u>: (Brassica oleracea) This plant type included colewort and cauliflower, as well as cabbage. In 1631, John Winthrop purchased all three varieties from Robert Hill, grocer. His seed bill included the following entry: "1 oz. Cabedg seed 25 per 1i. . . 1 oz. Colewort seeds 3 d. per 1i. . . 2 oz. Culiflower seed 2 s. 6 d. per oz." [Leighton, 1970, p. 190].
- <u>Catmint</u>: (Nepeta cataria) Catmint, used as a remedy for numerous ailments, was listed within the botanical writings of John Josselyn within the chapter entitled, "such Plants as are common with us in England" [Leighton, 1970, p. 269; Josselyn, 1672, p. 175].
- <u>Chervil</u>: (Anthriscus cerefolium, Myrrhus odorata, and Osmorhiza longistylis) John Josselyn noted chervil growing within colonial New England gardens [Josselyn, 1672, p. 221]. In 1631, John Winthrop, Jr. purchased "1/2 oz. Charnill seed 3 d. per oz." from Robert Hill, grocer [Leighton, 1970, p. 190].
- <u>Clematis</u>: (Clematis virginiana) The clematis, also known as virgin's bower, old-man's-beard, devils hair, wild hops, and traveler's joy, is a vine native to eastern North America. It is believed to have been adopted into colonial gardens [Taylor, 1952, p. 25].

Elder: (Sambucus canadensis) See page 143.

- Honesty: (Lunaria annua) On March 30, 1760, honesty was advertised for sale within a Boston newspaper [Earle, 1901, p. 34].
- Parsnip: (Pastinaca sativa) See page 143.
- <u>Spearmint</u>: (Mentha spicata) John Josselyn wrote that spearmint grew very well within colonial New England gardens [Leighton, 1970, p. 344].
- Strawberry Spinach: (Blitum capitatum) Strawberry spinach was advertised within the March 30, 1760 issue of a Boston newspaper [Earle, 1901, p. 33].
- Sumac: (Rhus canadensis, Rhus typhina, and Rhus glabra) Fragrant sumac was used as an ornamental garden plant within colonial gardens [Taylor, 1952, p. 40]. The settlers also used wild varieties to produce a tan dye, when combined with an alum mordant, and a gray to black dye, in combination with copperas [Dye Plants and Dyeing, 1964, p. 94]. Mark Catesby, an English botanist who studied American flora, included Rhus glabrum within his writings [Adrosko, 1968, p. 53]. John Josselyn recorded "sumach, differing from all that I did ever see in the herbalists. Our English cattle devour it most abominably . . . The English use it to boyle it in beer and drink it for colds" [Josselyn, 1672, p. 197].
- Sweet Scabious: (Erigeron annuus) See page 138.

# Design Thirty-eight

<u>Avens</u>: (Geum rivale) John Josselyn administered "Avens-roots and leaves in water and wine, sweetening it with Syrup of Clove-Gilliflowers" to a man who had "melted his grease" in a mowing contest [Josselyn, 1674, pp. 78-79]. Other common names for this plant include herb Bennet and chocolate root [Leighton, 1970, p. 245].

Bloodroot: (Sanguinaria canadensis) See page 131.

<u>Celandine</u>: (Chelidonium majus) This plant, believed to restore sight, was listed within the botanical writings of John Josselyn, within the chapter entitled, "Garden Herbs amongst us as do thrive here." He stated that celandine grows "but slowly," and is known as kenning wort "by the West Country men" [Leighton, 1970, p. 270; Josselyn, 1672, p. 224].

Currant: (Ribes) See page 141.

- Foamflower: (Tiarella cordifolia) The foamflower is a native plant, ranging from Nova Scotia to Georgia, which was adopted into colonial gardens. Other common names include miterwort, coolwort, and Nancy-over-the-ground [Taylor, 1952, p. 38].
- <u>Gooseberry</u>: (Grossularia) American Indians and early colonists used the fruit as a food source [Carrier, 1923, p. 30]. John Josselyn recorded "Gooseberries, of a deep red colour" within his writings [Josselyn, 1672, p. 181].
- Grape: (Vitis) In 1621, Edward Morton wrote, "Here are grapes, white and red, and very sweet and strong also; . . ." [Carrier, 1923, p. 31]. The first vineyards within the colonies, which were largely unsuccessful, were planted with varieties of grapes imported from Europe. Later, the colonists cultivated native varieties, especially the fox grape which has a range from New England to central Georgia [Taylor, 1952, p. 40]. The grape motif has symbolic meaning within Christian writings, such as "I am the Vine, ye are the branches" [Stearns, n.d., p. 40].
- <u>Maple</u>: (Acer rubrum) The early settlers used the bark of the red maple which grew wild within New England, as a dye source. Used in combination with an alum mordant, the bark produced an olive color; with copperas it gave a gray [<u>Dye Plants and Dyeing</u>, 1964, p. 94]. Josselyn noted that the Indians used maple ashes to "make a lye, with which they force out oyl from oak-akorns" [Josselyn, 1672, p. 179].

# Design Thirty-nine

Hellebore: (Veratrum viride) John Josselyn reported that hellebore grew within New England in quantities sufficient to gather it by the cartload [Josselyn, 1672, p. 173]. Samuel Sewall of Boston wrote within his diary, "Mr. Cook scrapes white Hellebore which he snuffs up and sneezes 30 times and yet wakes not nor opens his eyes." Governor Endicott, on the other hand, reported that tobacco up the nose was far better than hellebore [Leighton, 1970, p. 310].

# Design Forty-one

<u>Black Willow</u>: (Salix nigra) Early colonists used parts of the black willow, which grew wild as a dye source, producing a rose tan [Dye Plants and Dyeing, 1964, p. 94].

#### Design Forty-two

- Lupine: (Lupinus) An advertisement within the March 30, 1760 issue of a Boston newspaper, included white lupine, scarlet lupine, large blue lupine, rose lupine, and yellow lupine [Earle, 1901, p. 33].
- Palma Christi: (Ricinus communis) On March 30, 1760, palma christi was advertised for sale within a Boston newspaper [Earle, 1901, p. 33].

#### Design Forty-three

- <u>White Clover</u>: (Trifolium repens) The King's commissioners in Rhode Island wrote in 1665, "In this province also is the best English grasse." English grass was a term used to refer to a mixture of grass varieties, including white clover, blue grasses, bents, and rye grasses [Carrier, 1923, pp. 240, 151].
- Wood Sorrel: (Acetosella oxalis) See page 136.

### Design Forty-five

Edging Box: (Buxus sempervirens suffruticosa) On March 12, 1770, Abigail Davidson advertised box "for edging of walks" in the Boston Gazette and Country Journal. This shrub was brought to New England by the colonists during the beginning years of the colonial period [Taylor, 1952, p. 32].

Design Forty-six

Hops: (Humulus Lupulus) See page 142.

### Design Forty-seven

- Barberry: (Berberis vulgaris) There are references to the barberry within the writings of John Josselyn [Josselyn, 1674, p. 189]. Colonial leather dyers used barberry to acquire a bright yellow. Because the dye produced was fugitive, it was used on textiles only in combination with more permanent dyes [Adrosko, 1968, p. 34].
- <u>Fumitory</u>: (Fumaria officinalis) The fumitory plant was introduced into New England from Europe, during the colonial period [Leighton, 1970, p. 305].

Huckleberry: (Gaylussacia) See page 141.

Wild Cherry: (Padus virginiana) See page 136.

#### Design Forty-eight

Grape: (Vitis) See page 146.

## Design Forty-nine

Paradisi In Sole Paradisus Terrestris: (by John Parkinson) Leonard Hoar, president of Harvard College during the colonial period, had the books written by John Parkinson within his library. Later, Increase and Cotton Mather are known to have owned these books, also [Leighton, 1970, p. 148].

#### Design Fifty

- <u>Gale</u>: (Myrica gale) Josselyn noted that "Gaul or noble Mirtle" grew in New England, as well as in England [Josselyn, 1672, p. 182].
- Hops: (Humulus Lupulus) See page 142.
- Oak of Cappadocia: (Ambrosia eliator) The oak of Cappadocia was mentioned within the botanical writings of John Josselyn, as being effective for "stuffing of the lungs upon colds, shortness of wind, and the ptisick . . . ." [Josselyn, 1672, p. 178].
- <u>Pine</u>: (Pinus) Josselyn wrote that "board-pine is a very large tree, two or three fadom about. It yields a very soveraign turpentine for curing of desperate wounds" [Josselyn, 1672, p. 198].

# Design Fifty-one

- Apple: (Malus) See page 132.
- Blueberries: (Vaccinium) See page 141.
- Cranberries: (Vaccinium oxycoceus) Josselyn noted that the "cranberry . . . is a small trayling plant that grows in salt marshes." He stated that the berries "are excellent against the scurvy. . . ." [Josselyn, 1672, pp. 201, 202].

Currants: (Ribes) See page 141.

Gooseberry: (Grossularia) See page 146.

<u>Persimmon</u>: (Diospyros virginiana) Persimmons, an important food source to the Indians and colonists, was described by Hariot, writing in 1585, as "Medlars, a kind of very good fruit . . . red as cherries and very sweet . . . ." [Carrier, 1923, p. 31]. Plum: (Prunus) See page 135.

Rose Hips: (Rosa) See page 132.

# Design Fifty-two

<u>Black Tupelo</u>: (Nyssa sylvatica) Black tupelo grew wild within New England, and was used by the colonists as a dye source. In combination with an alum mordant, it produced a yellow tan [Dye Plants and Dyeing, 1964, p. 94].

Design Fifty-three

Strawberry: (Fragaria) See page 135.

Design Fifty-five

- <u>Angelica</u>: (Angelica archangelica) On July 26, 1631, John Winthrop, Jr. purchased "1 oz. Angelica seeds at 4 d." from Robert Hill, grocer. Early settlers in Maine discovered angelica growing wild near rivers [Leighton, 1970, pp. 190, 237]. John Josselyn noted "Wild Angelica, majoris and minoris," growing within colonial New England [Josselyn, 1672, p. 178].
- <u>Coriander</u>: (Coriandrum sativum) John Josselyn listed coriander within the chapter entitled "such Garden Herbs amongst us as do thrive here" [Josselyn, 1672, p. 223].

Pomegranate: (Prunus nigra) See page 135.

Plum: (Prunus) See page 135.

# Design Fifty-six

<u>Glasswort</u>: (Salicornia virginica) John Josselyn prescribed glasswort to be taken, as follows: "Glasswort, a little quantity of this plant you may take for the Dropsie but be very careful that you take not too much, for it worketh impetuously . . . ." [Josselyn, 1674, p. 80]. Other common names include samphire, corail, and leadgrass [Leighton, 1970, p. 309].

# Design Fifty-seven

Bearberry: (Arctostaphylos uva-ursi) See page 141.

Cherry: (Prunus) See page 133.

### Design Sixty-one

- Coltsfoot: (Tussilago Farfara) See page 136.
- Dandelion: (Taraxacum dens leonis) See page 138.
- Hawkweed: (Hieracium aurantiacum) See page 138.
- Lang de Beefe: (Picris echioides) John Winthrop, Jr. purchased "1/2 oz. Lang de beefe at 1 d." from Robert Hill, grocer, in 1631 [Leighton, 1970, p. 190].
- Lettuce: (Lactuca sativa) See page 137.
- Live-for-ever: (Antennaria canadensis) John Josselyn recorded "Live for ever . . . a kind of Cud-weed," as being "proper to the country" of New England [Josselyn, 1672, p. 191].

## Design Sixty-two

- Avens: (Geum rivale) See page 145.
- (Fabaceae) The Pilgrims discovered beans, as well as corn, Beans: which had been stored underground by the Indians. Kidney beans, scarlet runner beans, lima beans, and tepary beans are native to North America. Concerning these beans, John Josselyn wrote, "French beans, or rather American beans, the Herbalists call them kidney-beans from their shape and effects, for they strengthen the kidneys, they are variegated much, some being bigger a great deal than others; some white, black, red, yellow, blew, spotted . . . ." [Josselyn, 1672, pp. 73, 74]. The supply list of the Endicott expedition to New England in 1628 included, "... in the eare, benes, pease .... " In 1645, William Wood wrote, "... there hath been no great triall as yet of . . . Beanes only thus much I affirme that these . . . grow well in Gardens" [Carrier, 1923, pp. 52, 49, 249, 143, 147].
- Dragon: (Arisaema draconitum) This plant is mentioned within the writings of both Cotton Mather and John Josselyn [Leighton, 1970, p. 296; Josselyn, 1672, p. 176].
- Lizard-tail: (Saururus cernuus) Lizard-tail, native to swamps within the eastern United States, was adopted into colonial American gardens [Taylor, 1952, p. 56].
- <u>Radish</u>: (Raphanus sativus) John Josselyn noted radishes growing within New England during the colonial period [Josselyn, 1672, p. 221]. On July 26, 1631, Robert Hill, grocer, sold "8 oz. radish seed at 12 d. per 1i." to John Winthrop, Jr. [Leighton, 1970, p. 190].

## Design Sixty-seven

- <u>Juniper</u>: (Juniperis communis) Samuel Sewall, a resident of Boston, recorded within his diary the planting of a juniper hedge [Leighton, 1970, p. 320]. John Josselyn, describing New England juniper, noted that "it is here very dwarfish and shrubby, growing for the most part, by the seaside" [Josselyn, 1672, p. 182].
- Red Cedar: (Juniperus virginiana) Red cedar is a native evergreen. Colonial records make numerous references to its growth. In 1664, red cedar was sent to England from North America [Taylor, 1952, p. 70].
- Yew: (Taxus baccata) Mr. Hancock of Boston wrote, prior to the Revolution "I have sent my friend Mr. Wilks a mmo. to procure for me 2 or 3 Doz. Yew Trees . . . ." [Earle, 1901, p. 30]. The yew was introduced into the colonies from England [Taylor, 1952, p. 35].

# Design Sixty-eight

- <u>Black Oak:</u> (Quercus velutina) The early settlers used the bark of the black oak, which grew wild within New England, to produce a yellow natural dye. In combination with copperas, an olive green color could be obtained [Dye Plants and Dyeing, 1964, p. 94].
- Red Oak: (Quercus) John Josselyn noted red oak growing within colonial New England [Josselyn, 1672, p. 181].
- White Oak: [Quercus alba) The colonists boiled the acorns as a food source, and used the oil "to supple their joynts." The bark of the white oak was used for tanning leather, or was combined with chestnut bark to produce a dove color for dyeing textiles. The white oak is native to New England [Taylor, 1952, pp. 94, 95]. John Josselyn wrote that white oak was "excellent to make canoes of . . . . " [Josselyn, 1672, p. 181].

# Design Seventy

Barley: (Hordeum) The supplies brought with the Endicott expedition to New England in 1628 included "... barley ... a hhed .... William Wood wrote in 1645, "There hath as good English corn grown there, as could be desired; especially ... Barley .... " [Carrier, 1970, pp. 143, 147].

- <u>Corn</u>: (Zea mays) When corn is mentioned within colonial writings, the term usually refers to the various grains which the colonists brought with them from England: oats, wheat, barley, rye, etc. The variety of corn, as we use the term today, which was familiar to the colonists was Indian corn, or maize. This was a staple crop to the American Indians [Leighton, 1970, p. 283]. John Josselyn wrote "Indian wheat, of which there is three sorts-yellow, red, and blew . . . The flower makes excellent puddens" [Josselyn, 1672, p. 187].
- Oats: (Avena) The Endicott expedition in 1628 included "...oats, a hhed ..." In 1645, William Wood wrote, "There hath as good English corn grown there, as could be desired; especially ... Oates ...." [Carrier, 1923, pp. 143-147].
- Rye: (Elymus) The wild grass which the early settlers discovered growing along the New England Atlantic coast was wild rye. Rye seed was included within the supplies of the Endicott expedition of 1628, and William Wood wrote in 1645, "There hath as good English corn grown there, as could be desired, especially Rie . . . ." [Carrier, 1923, pp. 27, 143, 147].
- <u>Timothy</u>: (Phleum pratense) Timothy was the first grass crop to be cultivated within New England. After having been introduced from England, it was grown for hay near Portsmouth, New Hampshire [Carrier, 1923, p. 241].
- <u>Wheat</u>: (Agropyron) Wheat was included among the supplies brought to New England by the Endicott expedition in 1628. William Wood wrote in 1645, "There hath been no great triall as yet of Wheate . . . only thus much I affirme that these . . . grow well in Gardens" [Carrier, 1923, pp. 143, 147].

Design Seventy-two

Pear: (Pyrus communis) See page 134.

Design Seventy-three

- Apple: (Malus) See page 132.
- Peach: (Prunus) See page 134.
- Plum: (Prunus) See page 135.

Pomegranate: (Prunus nigra) See page 135.

## Design Seventy-four

Pine: (Pinus) See page 148.

Red Cedar: (Juniperis virginiana) See page 151.

<u>Spruce</u>: (Picea) Josselyn noted that "Spruce is a goodly tree, of which they make masts for ships . . . The tops of green spruce - boughs, boiled in bear and drunk, is assuredly one of the best remedies for scurvy . . . ." [Josselyn, 1672, p. 200].

Design Seventy-five

Pine, Eastern White: (Pinus strobus) See page

Design Seventy-seven

Black Oak: (Quercus velutina) See page 151.

Black Tupelo: (Nyssa sylvatica) See page 149.

- Cherry: (Prunus serotina) See page 133.
- Maple: (Aceraceae) See page 146.

Persimmon: (Diospyros virginiana) See page 148.

<u>Walnut:</u> (Juglans) Most walnut varieties are native to North America, some of which grew wild within New England during the colonial period [Brockman, 1968, p. 92]. Josselyn, writing about the native walnut, stated that "the nuts differ much fromours in Europe," and accompanied this with an illustration [Josselyn, 1672, p. 184].

# Design Eighty-one

<u>Buildings</u>: Frame buildings with steep roofs were erected within New England from a very early date. William Bradford wrote of a salt-maker who settled in Plymouth in 1624, that he "caused them to send carpenters to rear a great frame for a large house." Colonial domestic architecture was based upon a rectangular shape, usually two stories high, with steep slanting roofs. This style is evidenced by examples still in existence, as well as within colonial paintings [Kimball, 1922, p. 10]. An unsigned painting, believed to have been created within the American colonies, illustrates a wood frame building with a steep slanting roof [Flexner, 1947, p. 163].

