INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or “target” for pages apparently lacking from the document photographed is “Missing Page(s)”. If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in “sectioning” the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from “photographs” if essential to the understanding of the dissertation. Silver prints of “photographs” may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

Xerox University Microfilms
300 North Zeed Road
Ann Arbor, Michigan 48106
FARRELL, Jane Agnes, 1941-
THE AESTHETIC AND STRUCTURAL CHARACTERISTICS
OF SELECTED WOVEN SILKS WITH EMPHASIS ON DUTCH
SILKS OF THE SEVENTEENTH CENTURY.

The Ohio State University, Ph.D., 1975
Home Economics

Xerox University Microfilms, Ann Arbor, Michigan 48106

© Copyright by
Jane Agnes Farrell
1975
THE AESTHETIC AND STRUCTURAL CHARACTERISTICS OF SELECTED WOVEN SILKS WITH EMPHASIS ON DUTCH SILKS OF THE SEVENTEENTH CENTURY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Jane Agnes Farrell, B.S., M.S.

The Ohio State University

1975

Reading Committee:

Dr. Mary Lapitsky
Dr. Mathew Herban
Dr. Edwin Novak
Miss Mary Millican

Consultant

Approved By

Adviser

Department of Textiles and Clothing
ACKNOWLEDGMENTS

The researcher is heartily grateful to the following persons for invaluable assistance in planning, executing and writing the results of the research project:

Dr. Mary Lapitsky, Dissertation Adviser, Department of Textiles and Clothing

Dr. Mathew Herban, Dissertation Reader, Department of History of Art

Miss Mary Millican, Consultant, Department of Textiles and Clothing

Dr. Edwin Novak, Dissertation Reader, Department of Educational Development

Drs. Jacob Josef Temminck, Archivist of Haarlem, Host in the Netherlands

de Vrouw Johanna Temminck, Photographer, Hostess in the Netherlands

Mr. Joe Ritchie, Graduate Student, School of Journalism, Language Tutor
VITA

1963 ....................... B.S., Georgian Court College, Lakewood, New Jersey
1963-1965 ................. Teacher, St. Rose High School, Belmar, New Jersey
1965-1967 ................. Ocean Township High School, Teacher, Oakhurst, New Jersey
1969 ....................... M.S., Drexel University, Philadelphia, Pennsylvania
1969-1972 ................. Instructor and Assistant Professor, Department of Home Economics, Longwood College, Farmville, Virginia

FIELDS OF STUDY

Major Field: Textiles and Clothing
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
<td>vi</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>4</td>
</tr>
<tr>
<td>Dutch Silk Commerce through the Seventeenth Century</td>
<td>4</td>
</tr>
<tr>
<td>Dutch Silk Industry and Guilds through the Seventeenth Century</td>
<td>7</td>
</tr>
<tr>
<td>Silk Regulations in Amsterdam and Haarlem</td>
<td>15</td>
</tr>
<tr>
<td>Aesthetic Characteristics of Dutch Silks through the Seventeenth Century</td>
<td>18</td>
</tr>
<tr>
<td>III. PROCEDURE</td>
<td>28</td>
</tr>
<tr>
<td>Preliminary Preparation</td>
<td>28</td>
</tr>
<tr>
<td>Development of the Chart</td>
<td>31</td>
</tr>
<tr>
<td>Collection of Data</td>
<td>34</td>
</tr>
<tr>
<td>IV. FIGURED PILE FABRICS MADE OF SILK</td>
<td>40</td>
</tr>
<tr>
<td>Motifs of the Figured Pile Fabrics</td>
<td>41</td>
</tr>
<tr>
<td>Organization of the Textiles' Surfaces</td>
<td>73</td>
</tr>
<tr>
<td>Other Aesthetic Characteristics of the Figured Pile Fabrics</td>
<td>77</td>
</tr>
<tr>
<td>Weaves and Yarns</td>
<td>80</td>
</tr>
<tr>
<td>Textiles in Coeval Dutch Portraits</td>
<td>81</td>
</tr>
<tr>
<td>V. OTHER SILKS OF THE LATE SIXTEENTH AND SEVENTEENTH CENTURIES</td>
<td>83</td>
</tr>
<tr>
<td>Provenance of Samples</td>
<td>83</td>
</tr>
<tr>
<td>Description of the Haarlem Samples</td>
<td>85</td>
</tr>
</tbody>
</table>
Description of the Samples from other Museums .............................................. 98

VI. SUMMARY AND RECOMMENDATIONS FOR FURTHER STUDY ............................................ 116

Summary of Purpose and Procedure ............. 116
Summary of Findings ................................ 117
Recommendations for Further Study .......... 120

APPENDIX

A. European Museums with Whose Curators
the Researcher Communicated ....................... 124

B. United States Museums with Whose Curators the Researcher Corresponded ............ 125

C. Example of the Letter Sent to Curators
in the United States ................................ 127

D. Descriptive Classification of Figured Silks ............................................. 128

E. Museum Accession Numbers of the Silks
Studied .............................................. 130

F. Selected Munsell Colors Identified in the Silks Studied ............................ 132

G. Glossary of Terms ........................................... 134

SELECTED BIBLIOGRAPHY ................................... 136
LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Illustration Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Figured, Voided Velvet</td>
<td>43</td>
</tr>
<tr>
<td>2.</td>
<td>Three Figured Velvets</td>
<td>44</td>
</tr>
<tr>
<td>3.</td>
<td>Four Figured Velvets</td>
<td>45</td>
</tr>
<tr>
<td>4.</td>
<td>Three Figured Velvets</td>
<td>52</td>
</tr>
<tr>
<td>5.</td>
<td>Two Figured Velvets</td>
<td>54</td>
</tr>
<tr>
<td>6.</td>
<td>Three Figured Velvets</td>
<td>55</td>
</tr>
<tr>
<td>7.</td>
<td>Five Figured Velvets</td>
<td>61</td>
</tr>
<tr>
<td>8.</td>
<td>Five Figured Velvets</td>
<td>62</td>
</tr>
<tr>
<td>9.</td>
<td>Three Figured Velvets</td>
<td>69</td>
</tr>
<tr>
<td>10.</td>
<td>Two Silks</td>
<td>103</td>
</tr>
<tr>
<td>11.</td>
<td>Two Silks</td>
<td>104</td>
</tr>
</tbody>
</table>

Plate

<table>
<thead>
<tr>
<th>Plate</th>
<th>Illustration Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>III.</td>
<td>Figured Velvet, Sixteenth-Seventeenth Centuries, Italian. MMA 36.90.447. The Metropolitan Museum of Art, New York, Gift of the United Piece Dye Works, 1936...</td>
<td>48</td>
</tr>
</tbody>
</table>

vii
XVI. Embossed Velvet, Sixteenth-Seventeenth Centuries, Dutch (?). MMA 09.50.1074. The Metropolitan Museum of Art, New York, Rogers Fund, 1909 ........................... 72

XVII. Portrait of an Elderly Woman, Frans Hals, 1635. Copyright, The Frick Collection, New York ..................................... 82

XVIII. Silk and Wool Damask. 1678, Haarlem. Sample One. Gemeente-Archief, Haarlem ..... 86

XIX. Silk Damask, 1678, Haarlem. Sample Two. Gemeente-Archief, Haarlem ................... 86

XX. Silk and Metallic Brocade, 1678, Haarlem, Sample Three. Gemeente-Archief, Haarlem ... 88

XXI. Silk Brocade, 1678, Haarlem. Sample Five. Gemeente-Archief, Haarlem ............... 90

XXII. Two Small-Figured Silks, 1678, Haarlem. Samples Six and Seven. Gemeente-Archief, Haarlem ..................... 91

XXIII. Silk and Metallic Brocade, 1600-1650, No Source Named. No Number. Bisschoppelijk Museum, Haarlem ..................... 100


CHAPTER I

INTRODUCTION

Silk was aesthetically and economically important in seventeenth century Europe. Costumes for wealthy men and women were often constructed of woven silk textiles, liberally ornamented with silk ribbon, lace and fringe. Rather than being used sparingly, the costly textiles were massed in the generous folds of skirts and trains, were slung over cavaliers' shoulders and were bunched and tied in sword belts and military sashes. Ample production of silk textiles kept pace with their ample consumption. Silk weaving industries flourished in France, England, the Italian city-states, the Spanish Netherlands and The United Provinces of the Netherlands (present day Holland).

The silk weaving industry of The United Provinces has received very little attention from researchers. Thornton commented upon the extreme incompleteness of information available to the investigator of the Dutch silk industry and silk products. Although Rothstein wrote


2 Natalie Rothstein, "Dutch Silks - An Important but Forgotten Industry of the 18th century or a Hypothesis?" Oud Holland 79 (Number 3, 1964):153.
exclusively about eighteenth century silks of possible Dutch manufacture, she alluded to the paucity of information on the earlier products of the Dutch silk weaving industry.

Beyond the contribution to general knowledge of historic textiles, the researcher anticipated certain benefits coming from the study of Dutch silks. Since scant attention has been given to the Dutch silk weaving industry of the seventeenth century, textile department staffs have been unable to specify the origin of some seventeenth century silks in the museum collections. A systematic process of identifying and classifying seventeenth century Dutch silks should improve the precision of museum identifications. In addition, textile designers could benefit from research about early Dutch silks, through increased knowledge of motifs, colors and weaves. Textile artists should find profit in looking at a little-known group of historic silk textiles in the continual search for modern textile designs.

The researcher proposed a study with the objective of expanding knowledge by describing systematically and documenting Dutch silks of the late sixteenth\(^3\) and seventeenth centuries. Only woven, figured silks would be included in the study. Aesthetic description rather than scientific

\(^3\)Textiles of the period of interest can seldom be dated precisely. Hence, the researcher deemed it wise not to overlook textiles labeled "late sixteenth century." Such textiles might actually have been produced in the early seventeenth century.
description would be the primary accomplishment of the study. The sources of documentation which would be used were coeval records and post-seventeenth century histories of the Dutch silk weaving industry and Dutch portraits from the sixteenth and seventeenth centuries.

In the next chapter is contained a summary and critique of literature about the development of Dutch silk trade and manufacturing. An analysis of critical vocabulary terms and descriptions of a few extant samples of Dutch silk are also presented. The discussion of research procedures is focused upon the development and use of the descriptive chart (Appendix D). Two chapters are devoted to the detailed description of figured silk pile fabrics and other woven silks examined by the researcher. The last chapter includes a summary of the research project and suggestions for future research.
CHAPTER II

REVIEW OF LITERATURE

Historical and aesthetic literature was used by the researcher to facilitate the study of Dutch silk textiles of the seventeenth century. An approximate chronology of the growth of Dutch silk trade, silk manufacture and silk guilds was gleaned from historical writings. Textile histories were sources of both concrete and speculative information about the types of silks manufactured in the Netherlands during the seventeenth century. Following is a summary which contains a description of the development of silk trade and the consequent growth of silk manufacturing and silk guilds. The regulatory measures instituted by both Dutch civil government and Dutch silk guilds are also briefly discussed.

Dutch Silk Commerce through the Seventeenth Century

Van Nierop\(^1\) acknowledged the obscurity of the beginnings of silk processing and weaving in the Netherlands. She cited a 1482 trade statute of the city of Middleburg in which silk velvets, damasks and satins were mentioned. In 1518

\(^{1}\text{Leonie van Nierop, "De Zijdenijverheid van Amsterdam: Historisch Geschetst," Tijdschrift voor Geschiedenis 45 (1930): 27.}\)
Haarlem levied a municipal toll of twelve stuivers for each bale of silk passing across its borders.

The Dutch continued to trade silk fibers, yarns and fabrics from the sixteenth through the eighteenth centuries. During the first half of the sixteenth century, Dutch traders obtained Italian silk textiles by way of Antwerp and re-exported the silks to the lands around the Baltic Sea. Holy Roman Emperor Charles V in 1550 awarded the Netherlands the privilege of remaining free of new or increased taxes on several categories of trade goods, including silk products. Italian cities shifted their trade in silk from Antwerp to Amsterdam to an increasing degree. Indeed, during the seventeenth century Amsterdam exerted considerable influence in silk commerce.

Important sources of silk wares were the Italian city-states, particularly during the first quarter of the seventeenth century. Glamann noted that Milan provided low quality raw silk and Messina and Vicenza, medium grade silk fiber; Naples furnished good quality silk. From Bologna came the superior quality doubled fibers called organzini, which were used to make warp yarns. Genoa exported silk

2Ibid., 27-28

3Ibid., 18.

cloths, according to Davies. Florence and Venice shipped raw and processed silk fiber, velvet, lace, satin and taffeta via the Dutch merchants.

During the seventeenth and eighteenth centuries, traders of the Vereenigde Oost-Indische Compagnie, the United (Dutch) East India Company, obtained supplies of raw or partially processed silk fiber from China, Persia and Bengal. China was relatively important in the early 1600's and the 1680's, Persia from the 1620's through the 1650's and Bengal during the second half of the seventeenth century, according to Glamann.

Other silk products came into the Netherlands from the Orient. China provided poolzijde, a fiber used in the weaving of velvets, and armozijnen, a term applied to various thin, satiny, plain or figured fabrics. Armozijnen were often used as garment linings. Both Persia and China furnished an unspecified type of silk cloth called gilam. India and China exported satin, velvet and damask via the Dutch East India Company. A cloth which was made of silk and goat hair came

---

6 Van Nierop, "De Zijdenijverheid van Amsterdam," 29.
7 Glamann, Dutch-Asiatic Trade, 1620-1740, 114-122, 128.
9 Glamann, Dutch Asiatic Trade, 1620-1740, 133-134.
from Turkey. Not only did the Dutch import silk goods for their own needs, but silks were also re-exported to other parts of Europe. Dutch merchants carried silk products to Bremen, Hamburg, Denmark, Sweden, Danzig and the Baltic Sea area.  

Dutch Silk Industry and Guilds through the Seventeenth Century

An industry for the processing of silk was gradually established in the Northern Netherlands, fostered by the thriving trade in silk products. Various desultory attempts were made to encourage silk processing in the northern Netherlands during the first three quarters of the sixteenth century. During the decade 1570 through 1580, the silk industry was fairly widely established. French and Flemish Protestants fled religious persecution in their homelands and settled in the Netherlands. In Amsterdam, the immigrants contributed to the development of the silk industry, according to van Nierop.  

Thirty-five silk workers were named in the Amsterdam citizenship records between 1584 and 1606. The figures seem
small but are misleading; since many classes of silk workers were not bound to a guild, they were not required to obtain citizenship. Others who did petition for citizenship did not state their profession in the request. The marriage records for the years 1584 to 1606 contained more revealing figures than did the citizenship records. Marriage records included 490 persons who were active in different branches of the silk industry. Of the total number of silk workers, 431 were immigrants from The Spanish Netherlands and from France. In the 1580's and 1590's, satin and silk plush fabrics were made in Amsterdam; fiber and yarn processing were also developed.

Amsterdam was not the only center of silk manufacturing in the late sixteenth and early seventeenth centuries. Haarlem, too, must have had an infant silk weaving industry. One guild charter dated 1598 was housed in the archival Index of the town of Enschedé. 12

In the early years of the seventeenth century, the Dutch silk industry received impetus from two unexpected events. Santa Catharina, a Portugese vessel, was seized by Admiral Heemskerck in 1603. 13 The rich cargo, including 1200 bales of Chinese silk, became the property of the Dutch. In 1604, Admiral Warwijk captured a similar prize and the Amsterdam

12 Enschedé, Index, 159.

13 Van Nierop, "De Zijdenijverheid van Amsterdam," 151-153, 156.
Admiralty resolved to auction the silk. The European silk merchants came eagerly to the Amsterdam auction because of the recent failure of the Italian silk crop and the war between Turkey and Persia. Thus, Amsterdam gained status as a silk-shipping city, a position carefully cultivated by Dutch-born and immigrant merchants. The municipal government was also supportive of the merchants' endeavors to build Amsterdam's silk trade.

The initiative for establishing silk processing mills followed hard upon the spurt in trading activity. Emanuel Rodrigos, Steven Cordosa and Diego de Vyler, three Portuguese-Jewish immigrant merchants, petitioned the Amsterdam burgomasters for help in setting up silk mills. The three men were given quarters in the city, rent free for various periods of time, on the condition that they would instruct local people in the craft. Caspar Benoist, a widely-traveled Flemish immigrant, obtained a ten-year charter for the establishment of Italian-type silk mills. Benoist was required, in exchange for the charter, to permit the copying of his mills at a recompense of 1200 Flemish pounds for each mill which was reproduced.

Van Nierop\textsuperscript{14} pointed out that the Italian influence reached the Dutch silk industry indirectly. There were no

\textsuperscript{14}Ibid., 156.
Italian immigrants mentioned in the marriage or citizenship records. Instead, both Italian artistic and technological expertise seemed to have been brought to The United Provinces by people such as Benoist, who had lived briefly in Italy.

In 1626, a silk dyers' guild was founded in Amsterdam. In the same year, Caspar Varlet obtained a seven-year charter to manufacture double and single taffetas, armozijnen and levantine taffetas, which were described as being "...as good as and similar to Italian and French articles..." The statement is evidence of the general resemblance between Dutch silk fabrics and those of countries with longer-established silk industries.

Van Nierop, working from indirect references in seventeenth century guild and municipal records, determined the probable characteristics of the silk industry up to about 1648. Silk weavers appeared to have done contract work for merchants, who could bring the fabrics to a wider market and who had the money to invest in costly silk fiber and yarn. Inventories of master weavers' property are evidence that the masters each had at least one loom and some

15 Ibid., 18.
16 "...zoo goed en gelijk de Italiaansche en Fransche artikelen..." Act Book of the States General, 5 f. 443 v. Quoted by van Nierop, "De Zijdenijverheid van Amsterdam," 170.
17 Ibid., 160-162, 164, 169.
masters-owned silk finishing equipment. Household members, including apprentices under contract and journeymen, worked with the master weaver. There seem to have been many wage workers within the industry. In the course of time, weaving establishments were fewer in number and larger in size, resulting in a more efficient use of tools. Because of their technical and aesthetic expertise, masters with large shops exerted growing leadership in the silk industry, second only to the influence of the merchant-contractors.

The types of silks\(^\text{18}\) woven in the first half of the seventeenth century included pile fabrics of pure silk or silk plus other fibers. Among the types of pile fabric were plain velvets and velours and sculptured pile designs, for which some investigators have accepted the name *kaffa*. Ribbed silks varying from heavy weight grosgrain to light weight taffeta were also manufactured. Plain fabrics became popular after the French edict against heavily ornamented textiles. The Dutch also produced plain fabrics such as *peau de soie* and *gros de Tours*. In addition to pure silk fabrics, a large volume of silk-and-wool and silk-and-linen fabrics were manufactured in the Northern Netherlands.

Van Nierop\(^\text{19}\) judged the early products, such as *kaffa* and narrow, plain silks, to have been of cheap quality,

\[^{18}\text{Ibid., 170-171.}\] \[^{19}\text{Ibid., 171-172.}\]
rather than rich or beautiful. However, by 1635, figured satin, black and colored armozijnen, and silk damasks and gold brocades were being supplied by the Amsterdam weaving shops.

Van Nierop concluded her 1930 article with 1648, the year in which Spain was forced to acknowledge Dutch independence. Silk manufacturing in the 1640's was beset by competition from the oriental silks imported by the United East India Company in large quantities. Even at the urging of the States of Holland, the legislatures of the other six provinces would not vote for limiting oriental imports to an amount worth 60,000 florins per year.

The Dutch silk industry continued to thrive through the eighteenth century, despite the lack of government protection. Immigration of silk workers into the Netherlands helped to promote the Dutch silk industry. Since the 1660's, Louis XIV's government had made France inhospitable to Protestants, according to Thornton. They sought religious freedom in England and The United Provinces and brought with them the knowledge of many crafts, including those related to silk manufacturing. Particularly stimulating was

---

20 Ibid., 171-172.


22 Thornton, Baroque and Rococo Silks, 20, 29.
the influx of Huguenot refugees after the 1685 Revocation of the Edict of Nantes. The French silk workers had been accustomed to changing their silk designs continually. Such innovation had been encouraged by the French government as a means of promoting the sale of silk cloth. For this reason, French immigrant artisans could help to stimulate aesthetic and fashionable improvements in Dutch silk designs.

In a 1923 publication, van Nierop\textsuperscript{23} presented documents pertaining to the occupations of the late seventeenth century immigrants to Amsterdam. One item (presumably unedited by van Nierop) was a list of immigrants and their professions for the period from 1681 to the end of the century. No fewer than 95 immigrants were listed as workers in some type of silk fabric manufacture. A second document, dated 1684, contained a request by Abraham Perroneau for city aid in setting up a factory to produce silk taffeta, glazed taffeta, double taffeta, satin, flowered silk serge and heavy weight taffeta.

Instructive is a series of documents in the collection which relate to a French refugee manufacturer of taffeta and armoziijnen. Apparently, his fabrics closely resembled the

\textsuperscript{23}Leonie van Nierop, "Stukken Betreffende de Nijverheid der Refugiés te Amsterdam," II Economisch Historisch Jaarboek 9 (1923):165-166, 177-190.
French counterparts, because the English authorities seized a consignment of his goods during an English ban on importation of French goods. In the group of documents, reference was made to two practices designed to distinguish Amsterdam goods from French fabrics of the same type. First, a bi-colored stripe, the colors of which were changed monthly, was woven across the breadth of each piece of fabric. Second, lead seals or medallions were attached to each piece of cloth. The seals were stamped with a symbol which identified the city of origin and the quality of the cloth.

The French appeared to have been quite aware of the strength of Dutch competition. Barbour cited a French memorandum which included the complaint that the silk brocades of Lyons and Tours were no longer sought after in Spain and the Indies. Dutch gold and silver brocades were replacing the French ones, at a handsome profit to the Dutch shippers. In 1699, the Dutch asked the French government to allow them to send silks to France, but the silk masters of Tours protested vigorously. The French masters expressed the view that Dutch products would hurt the French industry by flooding the country with cheap silks imitating Chinese and Indian textiles. The United East India Company was


importing oriental textiles in large quantities at the time. The value of oriental imports exceeded five million florins in 1697.\textsuperscript{26} It was possible that the Dutch were copying some of the oriental silk designs in their own fabrics.

\textbf{Silk Regulations in Amsterdam and Haarlem}

In addition to being a source of information about the development of the Dutch silk industry, historical literature can be used to understand the seventeenth century equivalent of quality control in textiles. Both the municipal government and the guilds exercised authority over fabric standards. Guild leaders recognized that purchasers' confidence in each guild's products was vital to the growth of demand for the products. City fathers realized that the town's reputation for being a source of serviceable goods could be a significant factor in the prosperity of the town. In certain cases, however, the burgomasters believed it was wiser not to tamper with the working methods of some silk workers, such as the weavers of figured velvets.

Proper dyeing of silk\textsuperscript{27} was dealt with extensively in the legislation of Amsterdam, as reported by Van Nierop.\textsuperscript{28}

\textsuperscript{26}Boxer, \textit{The Dutch Seaborne Empire}, 176.

\textsuperscript{27}Silk fiber must be cleansed of a gummy substance, called sericin, before being spun into yarn. An improper practice in the dyeing of silk was to compensate for the weight lost through degumming by the addition of excessive amounts of metallic salts to the dyestuff. The practice weakened the fiber and decreased the wear life of fabric.
As early as 1598, the weighting of silks during the dyeing process was forbidden in city edicts. Kaffa workers, who wove figured pile fabrics, were allowed to mix completely degummed and partially degummed silk fibers in firmly woven types of kaffa. Fuller and firmer pile was thus produced, eliminating additional finishing processes and reducing costs.

Other regulatory measures, such as those of 1625 and 1626, were used to ban the mixing of cotton, linen and wool fibers with silk in many types of fabrics. In some cases, proper widths of fabrics were established, as was the amount of shrinkage allowed in already-woven goods when they were dyed or finished. Lead seals were attached to each length of cloth woven in the city, to indicate the place of origin and the level of quality. Elected guild leaders bore the responsibility for observance of the rules by the respective guilds.

Van Ysselsteyn brought to light many stipulations pertaining to the narrow silks woven in Haarlem by the so-called Narrow Weavers' Guild. Widths of the silks made by

(Cont'd)

made from the fiber. Regulations were needed, therefore, to limit the degree of weighting, especially in black silks.

29Ibid., 157-159.
the guild members were said to have been between 43.0 and 51.6 centimeters. The use of silk alone, without the addition of cotton or linen, was stipulated in an ordinance dated 1597. Three saleable qualities of silk fabric were specified. The best quality was sealed with a sword prior to 1615, with a crown after that time. Average goods received a sword-and-bar mark before 1615, later a bar only. Poor goods were stamped with an unspecified mark of insufficiency until 1615; a lozenge crossed by a bar was used after that date. Any cloth falling below the third quality was destroyed.

Color fastness requirements were set forth in the ordinances dated 1605 and 1606. Red, violet, liver-color, gray, blue green, and colors derived from cochineal were described as very durable. Less-enduring colors included orange, green, blue and yellow.

Miscellaneous specifications were made in later edicts. The improper use of oil on silk fiber during processing was banned, specifically in the regulations dated 1629 and 1642. Although the practice of oiling silk made it easier to handle, oiling also increased the susceptibility of silk to insect damage. The number of warp yarns per centimeter of fabric width was also controlled by rules; a minimum of 25 yarns per centimeter of width was specified in 1677. All silk textiles were required to have a minimum
ground warp of 1800 yarns and a pile warp of 600 yarns. Damasks were required to have 44 warp yarns per centimeter of width.

Guild members were responsible for having the cloth that they wove inspected before submitting it for sale. They also had to supervise the use of proper selvages and the attachment of accurate lead seals.

**Aesthetic Characteristics of Dutch Silks through the Seventeenth Century**

A real dearth of information has plagued researchers who were interested primarily in the aesthetic characteristics of early Dutch silks. Kalf, van Nierop, van Dillen and Thornton have made limited and tentative statements about the silks. Van Ysselsteyn has given concrete descriptions of a number of silk samples. She has also made speculative statements, some of which were more fully substantiated than others.

**Figured Silk Pile Fabrics**

Kalf prefaced his descriptions of textiles held by the Rijksmuseum Amsterdam with a vigorous insistence upon caution in assigning provenance to early textiles. He maintained that unique national characteristics of textiles were

few, for two reasons. Weaving as an art did not reach full development in all countries simultaneously. More advanced cultures taught less advanced ones. Furthermore, new weaving centers imitated older, established centers. In time, new centers established their own distinctive and innovative styles. Thornton\textsuperscript{32} pointed out that France was a hothouse of ever-changing designs for silk, designs which were widely copied by the silk weavers of other nations. Hence, the origin of seventeenth and eighteenth century silks could not always be precisely identified.

For the present research, Kalf's\textsuperscript{33} most significant remarks involved the relationship between a group of black silk velvets and the fabrics depicted in Dutch portraits of about the first quarter of the seventeenth century. Sample Number 85, according to the Catalogus, was identified as dating from the seventeenth century. No country of origin was stated. The fabric had a ground weave of finely ribbed silk and small hexagonal figures which enclosed lyre-shaped figures. According to Kalf, the figures were executed in cut and uncut pile. Dated from about 1620 and possibly of Dutch origin, was Sample Number 86 in the Catalogus. Like Number 85, the sample was described as having a finely ribbed ground

\textsuperscript{32}Thornton, Baroque and Rococo Silks, 29.

\textsuperscript{33}Kalf, Catalogus..., xxiv, 18, 21.
weave and pile figures which consisted of S-shaped twigs with small flowers and leaves. Some kind of curlicues were alternated with the floral motifs. Sample Number 87 in the Catalogus was described as being similar to Sample Number 86, except that the flowers were not referred to as S-shaped.

Only one other silk sample in the Catalogus was identified by Kalf as possibly of Dutch manufacture. Sample Number 104 was dated from about the middle of the seventeenth century. The fabric was made of yellow satin, shot with gold and silver, and had a separate group of filling yarns made of "flat" gold. The pattern of the sample consisted of large, strongly stylized flowers with undulating leaves and volutes. Glistening speckles were added by the gold filling yarn to the duller gold of the silk pattern, according to Kalf's description.

Both van Dillen and van Nierop offered indirect support to Kalf's hypothesis that the black, figured silk velvets might be of Dutch manufacture. Crucial to the discussion of figured velvets was the word kaffa or caffa. Modern textile dictionaries seldom included any such word. The few definitions found were of silk or cotton fabrics which lacked any unique characteristics. During the sixteenth and seventeenth centuries, however, the word kaffa seemed to have been applied to woven figured pile fabrics in which silk was used exclusively or was combined with other fibers.
Van Dillen defined "caffawerkers" as "...manufacturers of flowered velvet...,"\(^34\) in his preface to a collection of documents of Amsterdam's sixteenth and seventeenth century professions and guilds. Document Number 912 in van Dillen's collection was dated 14 August 1597. In it was a contract between the widowed mother of a sixteen-year-old boy and a 'caffawerker' in the city of 'Amsteldamme.' The boy was to be apprenticed to the 'caffa' maker in order to learn to weave "...flat caffa, cut and drawn, and draw work..."\(^35\) In Document Number 191\(^36\) was recorded the complaint of two 'caffa' makers against a maker of silver and gold yarns. The 'caffa' weavers expressed dissatisfaction with the quality of precious metal yarns delivered to them by the yarn maker. Thus, some evidence existed that silver and gold yarns were incorporated by 'caffa' weavers into their fabrics.

Van Nierop\(^37\) adduced further evidence of the nature of 'caffa' and distinguished several varieties of it. Researchers had not, according to van Nierop, discovered the very earliest meaning of the word. In the sixteenth century,

\(^34\)"...vervaardigers van gebloemde fluweel...," van Dillen, Bronnen tot de Geschiedenis..., xvii.

\(^35\)"...plat caffa, sne ende getroken, ende treckwerk...," Ibid., 547-548.

\(^36\)Ibid., 106-107.

\(^37\)Van Nierop, "De Zijdeniverheid van Amsterdam," 23-24.
however, the phrase "satin caphart" was used to describe a fabric made of a silk warp and a linen filling. Manufactured in the cities of the Southern Netherlands, the fabric was a cheaper imitation of the luxurious pure silk brocatelles of Venice.

Flowered or figured velvets were mentioned as having been made in The United Provinces in a "list of goods and of convoy and license rights" dated 1 March 1584. Similar velvets manufactured in The United Provinces were named in the same type of lists dated between 1603 and 1655. Among the figured pile fabrics described in the lists were "velours kaffa" and a brocaded taffeta with a velvet pattern which stood out in relief against the ground weave. Van Nierop reported that, even before the beginning of the seventeenth century, the term kaffa was sometimes used in place of the full phrase velours kaffa when flowered velvet was being discussed. Dated 4 September 1619, a public notary's protocol, included the phrase "...a piece of kaffa, being a large unshorn flower on a satin ground...".

Van Nierop explained that figured velvets had patterns formed either by variably colored pile or, more frequently, by a combination of long and short pile. Cut pile and uncut pile were also combined to produce various aesthetic effects.

---

38"Een stuck caffa, wesende een grootachtige ongeschooren bloem op een satijn grondt." Ibid., 24.
She discussed the hand weaving process and distinguished between flat work and drawn work. Flat work was cut pile fabric. The pile warp yarns of flat work were caused to loop over the top of sharp-edged wires. As the wires were removed, the pile loops were cut. Drawn work had uncut loops because of the rounded wires over which the pile warps were looped. Modern ciselé velvet could be compared to kaffa.

According to van Nierop, "full ground kaffa" had a surface completely covered with pile. The pattern was formed by the contrast of cut and uncut portions of the pile. "Satin ground kaffa" bore pile figures between which the satin ground weave could be seen. "Classic kaffa" was described as having black floral figures on a red or yellow ground.

There were 490 silk workers who immigrated to Amsterdam from 1584 to 1606; 246 were kaffa weavers. The large proportion of kaffa makers relative to other silk workers was evidence of the importance of kaffa during the sixteenth and early seventeenth centuries.

---


40 Ibid., 156.

41 Ibid., 33.
Other Possible Dutch Silks of the Seventeenth Century

One group of silks which are discussed in the present research were described in an article by van Ysselsteyn. Portions of the material pertinent to the present discussion are summarized and evaluated here.

Eight small pieces of silk were attached by sealing wax to Notorial Protocol Number 468, housed in the Gemeente-Archief (Municipal Archive) van Haarlem. Protocol 468 contained the statement by eight men, whose rank is not specified, that the samples had come from silk goods manufactured in Haarlem. Van Ysselsteyn briefly described the sizes, motifs, weaves and colors of the pieces. She described another collection of silk samples, which came from the eighteenth century factory of van Heshuyzen in Haarlem. The second collection belonged to the Rijksmuseum Amsterdam.

Van Ysselsteyn included in her discussion entries from the records of the so-called Narrow Weavers' Guild of Haarlem. The textile descriptions and guild information were well substantiated and clearly presented. Problems seemed to exist with certain information in the article.

Several statements made by van Ysselsteyn were not sufficiently clear to the present researcher. The reasoning process used to reach the statements was not made explicit. Despite the brevity imposed by a journal article, some indication of reasons for the statements would have been helpful.
For example, in connection with the seventeenth century term "halve spiegel" (literally "half mirror"), van Ysselsteyn stated that it "...can only be the report of a damask pattern." Neither reasons nor documentation of the statement were provided. Further, a more liberal use of definitions for weavers' terms would have been beneficial.

Van Ysselsteyn defined the word kaffa as a cotton or linen textile, in plain or twill weave, white or flowered, made by the Dutch in imitation of Indian textiles. There might have been such a fabric referred to as kaffa but certain problems arose in the explanation. It was stated that "caffaen," thus spelled, first appeared in 1683. However, van Nierop cited a charter of 1619 which contained the phrase "...all types of colored and black kaffa...." The phrase was used in connection with checking the dimensions of pieces of fabric manufactured in Amsterdam or brought to Amsterdam to be "geblauwt."
Van Ysselsteyn and van Nierop presented different meanings for the term *kaffa*. The present researcher has tentatively adopted the van Nierop definition of "figured velvet." The latter definition was more extensively documented than van Ysselsteyn's definition and was closely related to the weaving process.

One further problem existed in the van Ysselsteyn paper. All of the Haarlem silks described in the article were dated from the late seventeenth and eighteenth centuries. Yet the portraits cited as including depiction of Haarlem silks were dated between 1616 and 1635. The contention that the fabrics in the portraits were Haarlem silks was questionable because of the 43-year span between the 1635 painting and the earliest silk fragment (1678). Similar difficulties were raised by van Ysselsteyn's citation of the weaving term "pluimtuin" from a set of regulations dated 1603-1604. The assertion that the "pluimtuin" motif was visible in an eighteenth century fabric was weakened by the hundred-year span between the regulation and the manufacture of the fabric.

Finally, when fabric samples are to be discussed in relationship to portrayed textiles, a fairly close temporal and visual connection should be found between the sample

---

46 Van Ysselsteyn, "Het Haarlemse smalweversgilde," 35. "Plume garden" or a similar meaning seemed to have been intended.
and the portrait. It is possible that the sitter in a portrait wore an old-fashioned style of textile. Thus, a fabric might be of an earlier date than the portrait in which it is depicted. However, to assert that a later fabric is visible in an older portrait is somewhat open to question.
CHAPTER III

PROCEDURE

The steps taken to prepare for the research project, the development of the descriptive chart for the silks and the method of data collection are described below.

Preliminary Preparation

In order to acquire background for productive examination of possible Dutch silks, the researcher undertook to study the Dutch language. The Ohio State University offered no formal coursework in Dutch. A graduate student tutor was recommended by a professor in the German Department. Basic grammar study was reinforced by the translation of several pertinent journal articles or sections of articles and the use of language tapes. The tapes were helpful in clarifying grammatical rules and practicing the spoken language.

Extensive correspondence with selected European and United States museum staffs was undertaken. The purposes of the letters were to locate museums containing silk textiles or documents of importance pertaining to them and to

1 Mr. Joe Ritchie was a graduate student in the School of Journalism. The grammar used was William Shetter. Introduction to Dutch (The Hague: Martinus Nijhoff, 1961). Tapes were prepared by Mr. Ritchie from grammar exercises and conversations presented on Radio Nederland.
establish an appointment at each museum or archive with useful items. Letter writing was begun about seven months before the research trip and was continued until approximately two months after the return from Europe. Insofar as possible, letters to museum personnel in the Netherlands were written in Dutch.

Because of the delays involved in overseas correspondence, letters to the Dutch and English curators were given priority over letters to United States curators. The researcher believed that seeing European collections before seeing collections in the United States would be beneficial. Evaluation of textiles in the United States could be made more accurately as a result of the additional knowledge. Choice of museums in the United States (Appendix B) was based on two considerations. The first factor was the extent of the textile collection; the second was the location of the museum in either a cosmopolitan center or an area with a history of early Dutch colonization. Museums in cosmopolitan centers might have a diversified textile collection; centers of Dutch colonization might have remnants of early Dutch silks. Evidence existed of trade in luxury articles, including silks, between the Dutch colonists in New Amsterdam and the merchants in the Netherlands.  

---

2Rothstein, "Dutch Silks...," 157-158.
Few textile curators in the United States could offer the researcher more than courteous good wishes for a successful project. Dutch silks were not present in many collections. Curators of The Metropolitan Museum of Art, New York City and The Art Institute of Chicago wrote that a few Dutch or Netherlandish silks were housed in the respective collections. Interest in the research was expressed by curators in Cooper-Hewitt Museum of Design and The Cleveland Museum of Art. Both museum collections contained seventeenth century silks of uncertain provenance.

Several museums and archives in the Netherlands lacked materials useful for the research. Het Kostuummuseum, The Hague; Fries Museum, Leeuwarden; Zuiderzee Museum, Enkhuizen; and "De Lakenhal," Leiden housed no silks dated earlier than the eighteenth century. Curators in all four museums were, nonetheless, most gracious in admitting the researcher to storage areas to see eighteenth century costumes and textiles. The Rijksmuseum Amsterdam was undergoing a protracted period of renovation in the textile and costume storage areas. Only the public display cases were accessible to students. Twents-Gilders Textiel Museum, Enschedé and Textiel Museum, Tilburg owned no articles pertinent to the study.

Data for the project were obtained from the following museums and archives:

Gemeente-Archief van Haarlem, Nederland
Aartsbisschoppelijk Museum, Utrecht, Nederland
Bisschoppelijk Museum voor Religieuze Kunst, Haarlem
Unless noted to the contrary, both silks and the descriptive materials related to silk textiles were inspected by the researcher in each of the museums and archives named.

**Development of the Chart**

Integral to the planning of data collection was the development of a descriptive chart for seventeenth century silks. The use of a chart would permit systematic and efficient collection of information, easy comparison of textiles and summary of findings.

Certain significant characteristics of seventeenth century silk design were derived from writings about historic textiles. Rothstein\(^3\) stated that eighteenth century silks of probable Dutch origin were particularly neat and precise in the outlines of the motifs. Therefore, an item about Crisp or Fuzzy, Blurry Motival Outline was incorporated into the descriptive chart. Rothstein also maintained that there was potential significance of selvage-to-selvage width for identifying Dutch silks of the eighteenth century. Rothstein gave 37.4 to 44.5 centimeters (15\(\frac{1}{2}\) to 17\(\frac{1}{2}\) inches) as crucial widths. But Kalf\(^4\) and van Ysselsteyn\(^5\)

\(^3\)Ibid., 157, 168. 
\(^4\)Kalf, Catalogus..., 21. 
\(^5\)Van Ysselsteyn, "Het Haarlemse smalweversgilde," 34.
cited 51.0 and 51.6 centimeters, respectively, when they discussed possible or actually identified Dutch silks of the seventeenth and eighteenth centuries. Whatever the actual range of typical widths for early Dutch silks, it was deemed important to include Fabric Width in the descriptive chart.

Several items were drawn from Thornton's volume on silks of the seventeenth and eighteenth centuries. Thornton noted that early seventeenth century motifs were often arranged in horizontal rows, in contrast to the isolated textile motifs of the Renaissance. Toward the middle of the century, the use of a complex intermingling of motifs made the rows and the boundaries of individual motifs difficult to see. Stripes were in vogue for part of the second half of the seventeenth century. Hence, Basic Grouping of Motifs and Connected or Discrete Motifs were items placed in the descriptive chart.

Smaller design units and the use of reversed designs in alternate rows (the comber repeat) were characteristic of early seventeenth century silk. Items concerning Type of Repeat and Dimensions of the Motif were included in the chart. Finally, Thornton traced the transition from the

---

7Ibid., 89. 8Ibid., 20, 85, 136. 9Ibid., 90-91.
use of two-dimensional forms to the use of three-dimensional-
appearing designs. Each textile which was examined needed
to be evaluated on the basis of the Flatness or Three-
Dimensional quality of the design.

Kalf\textsuperscript{10} repeatedly used the term "stylized" in de-
scribing seventeenth century textile motifs. As a result,
the researcher considered it advisable to place silk designs
on a continuum from entirely naturalistic to completely
geometric.

Other essential characteristics were incorporated
into the descriptive chart. Color could be a significant
aspect of a national textile design tradition. Space was
provided on the chart for describing the Colors of each
silk specimen examined.\textsuperscript{11} A section for noting the Weave
and Yarn Types in each textile was also included in the
chart. The item about Overall Appearance was used for
recording the kinds of visual contrasts present in the silk
samples and for writing miscellaneous comments. Hue, value
and luster contrasts were found in various specimens. Last,
a place was provided for recording the Museum Number of
each specimen studied.

\textsuperscript{10}Kalf, \textit{Catalogus...}, 21.

\textsuperscript{11}The researcher sincerely appreciated the suggestion
of the use of the Munsell Color System by Miss M. Dolores
Quinn, Professor of Design at Drexel University, Philadel-
phia.
The reverse sides of the chart were used for transcribing the museum description of each piece of silk and sketching salient design motifs. Metric measurements were used in the study because European curators used metric system and it was expected that United States curators would adopt the system soon.

Aesthetic description can be highly subjective. An effort was made to increase objectivity by the use of precise measurements and an alpha-numeric system of color description. As often as possible, discrete, non-continuous variables were used, such as the Basic Grouping of Motifs.

The research design was planned at a macroscopic rather than a microscopic level. Curators have stored valuable textiles between sheets of plastic, under glass or on fabric set into a frame. Under such circumstances, thread count, degree and direction of yarn twist and similar details of fabric construction could not be observed.

Collection of Data

Collection of data involved selection of the most pertinent examples from each museum's collection. A verbal description and sketches were completed for each piece chosen.
Selection of Textile Samples

Working time in each museum was restricted to some degree. Therefore, criteria were needed for choosing the most useful silks for examination. The primary criterion for selection was that the silk date from the seventeenth century. A few exceptions were made of late sixteenth century Italian silks. The silk industry of Italy was founded in the early medieval period. By the sixteenth century, Italian technical knowledge and artistry were sufficiently developed to permit innovative textile design. The Dutch silk industry was firmly established only in the last quarter of the sixteenth century and might have been comparatively slow to respond to changing fashions in textile designs. Therefore, silks made in Dutch mills at the beginning of the seventeenth century might have been similar to silks produced in Italian factories at the end of the sixteenth century.

From the vast collection of the Victoria and Albert Museum, the decision was made to study figured pile fabrics, as well as black and dark colored silks with small designs. Such textiles seemed to have been the kinds painted in numerous Dutch portraits of the seventeenth century. In all museums visited, the rare pieces of silk with both selvages intact were given particular attention.
In a few instances, fabrics of identical color and design were discovered at different museums. Notes were made for both samples for the purpose of comparing color retention and the condition of the weave.

A descriptive chart was completed for each of the silks which were chosen; partial descriptions were written for very small or badly damaged silks, since not all characteristics could be perceived. On the reverse of the chart the researcher copied the museum description of the silk; major design motifs were also sketched. Photographs of the silks of greatest importance were requested, along with a letter authorizing discussion of the museum holdings.

Modifications of the Chart during Data Collection

Newly developed instruments are found frequently to require refinements for effective use. In the present study a policy was adopted of inserting clarifications or amplifications during data collection. It was believed that the precision of some areas of the chart might thus be increased.

Under the section labeled Basic Grouping of Motifs, it was often advisable to distinguish between the physical unit of the weave (such as a horizontal row of figures) and the unit with the greatest visual prominence (such as a diagonal row of motifs). The term "Dropped Point Repeat" was added to the category labeled Type of Repeat. The
purpose was to distinguish staggered units which were symmetrical or turned in only one direction from comber repeat units which were asymmetrical and which turned alternately to the right and to the left.

An explanation was given when the motifs of silks were described as either crisp or blurry in outline. Three reasons for blurry outline were poor technical execution of the weave, purposeful muting of forms by the designer and use of a monochromatic color scheme in the textile.

The dimensional quality of the textile surface also had two aspects. The first was the conception of the textile design as being essentially flat or as having the illusion of depth. Some figured pile fabrics had considerable depth of texture but lacked the illusion of spatial depth. Hence, one or two types of depth were ascribed to each sample.

The separation of a single yarn from the woven cloth was seldom possible. Yarn type was described as tightly or loosely twisted whenever the twist could be observed. The inclusion of fibers other than silk in a sample was also noted, when a determination could be made. The researcher also described the woven edges of each sample which had selvages intact.

Color description was an exacting part of data collection. The Munsell Color Book (1954) contains ten
basic hues. Each hue is given on a chart which includes all values and intensities of the hue. Intermediate hues were not available in the student series and were estimated by the use of a color ring. Each color on a fabric was identified by value and intensity. Then an estimation of location of the hue on the color ring was made. Estimated descriptions were given to approximately one-half of the colors in the silks. Each colored area of the textile design was placed as close as possible to the appropriate swatch on a Munsell chart. Areas of the textile which seemed best preserved in color were described. The Munsell method of color description was believed superior to descriptive color naming. Subjectivity of judgement was substantially reduced, although imperfections of visual perception could produce some inaccuracies.

A final consideration was the lighting, which varied among museums. Whenever possible, daylight was used for evaluation of color. Sometimes supplementary artificial light was needed. Museums are understandably anxious to preserve fragile textiles by shielding them from excessive light. All samples in a given museum were seen under the same lighting conditions, except for the Victoria and Albert Museum. Lighting conditions for the various institutions were as follows:
Gemeente-Archief, Haarlem: daylight, fluorescent light
Aartsbisschoppelijk Museum: daylight, incandescent light
Bisschoppelijk Museum: daylight
Victoria and Albert Museum:
   Textile storage: daylight
   Textile study: (weak daylight
      (fluorescent
The Metropolitan Museum of Art: weak daylight, fluorescent
CHAPTER IV

FIGURED PILE FABRICS MADE OF SILK

A group of thirty-three silk textiles examined by the researcher was sufficiently similar to be discussed together. Each sample in the group had motifs which were executed in pile weave. All but four of the samples seemed to have been constructed entirely of silk and were designated in museum records as silk textiles. However, verification of the fiber content by the investigator was possible for only two samples.

The museums which owned the samples, the countries of origin and the dates of the samples are as follows. Eighteen pieces were in the collection of the Victoria and Albert Museum, London. Dates assigned to the pieces varied from "sixteenth century" to "up to 1700." Italian manufacture was consistently ascribed to the samples. The Aartsbisschoppelijk Museum, Utrecht owned eight examples of figured pile fabrics, dating from the sixteenth through the eighteenth centuries. Except for a tentative provenance of "France (?)" given to one sample, the country of manufacture was left unidentified.

In The Metropolitan Museum of Art, New York, the researcher examined six of the many samples of figured
pile fabrics. Most of the fabrics were believed to have been of Italian origin and to have been dated from the sixteenth and seventeenth centuries. One velvet sample had a pattern which was embossed rather than woven. Dutch manufacture of the sixteenth to seventeenth centuries was attributed to the embossed velvet. Only one figured pile fabric was found in the Bisschoppelijk Museum, Haarlem. A label attached to the sample had the inscription, "Utrecht Velvet, 1650-1700." The sample was the only woven figured pile fabric seen by the researcher to which Dutch manufacture was ascribed.

Discussion of the group of figured pile fabrics is presented according to the characteristics included on the chart developed for the study (Appendix D). In order to facilitate comparisons, silk samples are grouped according to similarity of characteristics, not according to the museum which housed the samples. The discussion encompasses 1) the motifs used, 2) the organization of the textiles' surfaces, 3) other aesthetic characteristics and 4) weaves and yarns in the textiles. Finally, mention is made of portraits in which are depicted apparent figured pile fabrics.

**Motifs of the Figured Pile Fabrics**

Motifs are discussed according to the nature of the objects depicted and the manner in which they are designed.
Line drawings of the motifs and photographs of some of the silks are interleaved with the written discussion and are placed after the page on which the discussion of the motif is begun. Each line drawing is accompanied by a brief label of the type of fabric and the museum accession number of the sample. Exact numerical sequence is interrupted in order to reconcile the logical succession of motifs with the most pleasing visual presentation of figures. Plates XVIII, XIX and XX are full scale representations of the samples. Plates V, VII, IX, XVI and XXV are smaller than full scale; all other plates are enlargements.

Identification of Motifs

Considerable variety of motifs was found in the figured pile fabrics studied. Floral and plant forms were used on the majority of textiles. Seven samples had abstract figures with no recognizable relationship to flowers, leaves or twigs.

Nine textiles in the group of figured pile fabrics were covered with sprigs of flowers and leaves. (See Figures 1, 2 and 3 and Plates I through V for examples of the motifs. In every case, the sprigs were drawn with S-curved or reverse-curved vertical stems. Some of the S-curves were shallow, others were sharp. Between one and

---

1 Motifs virtually identical to those in Figure 3 D may be seen in Otto Von Falke, Decorative Silks (New York: Helburn, 1922), Plate 493.
FIGURE 1
FIGURED, VOIDED VELVET
Design A
V and A 1132-E-1888

Design B
MMA 36.90.447

Design C
V and A 1134-77

FIGURE 2
THREE FIGURED VELVETS
Design A
V and A 956-A-1899

Design B
V and A 934-1899

Design C
V and A 162-1926

Design D
V and A 1091-1899

FIGURE 3
FOUR FIGURED VELVETS
three blossoms were attached to each of the sprigs. Multiple blossoms on a sprig were usually varied in design and sometimes varied in size. Leaves of one or two types were placed along the curve of the stem, as can be seen in Figures 1, 2 and 3.

The floral forms were not exact imitations of real flowers but were derived from such plants as pomegranates and carnations. Both elongated, slender forms and short, rounded designs were found within the group of fabrics. Some fabrics were covered with a single design but most samples had between two and five types of sprigs in the pattern. Small triangles or diamonds were scattered among the sprigs on two of the samples.

Two fragments were covered with shapes so severely stylized that they barely resembled flowers (Figure 4, B and C). One design consisted of a slightly S-shaped stem set at an angle to the warp and filling of the fabric. At each end of the stem was a scalloped shape which was like a flower. The second sample had two types of figures, each of which had a large and a small floral form. Short, blunt scrolls were used in place of twigs.

One silk pile fabric was decorated with an undulating vine, extending horizontally across the fabric (Figure 4A). The lines of the vine were delicate; and the blossoms and leaves were composed of small circular and teardrop shapes.
FIGURE 4
THREE FIGURED VELVETS
Two other figured velvet fabrics had animal and bird shapes interspersed with the flowering twigs (Figure 5 and Plates VI and VII). One of the textiles had hens in one row and crouching, speckled, feline creatures in the alternate row. Identification of the animal figures on the second piece was difficult because the pile was severely abraded. Birds with peaked heads were placed between the floral sprigs in alternate rows. Birds faced left and animals faced right, in harmony with the alternating left and right curves of the sprigs.

So small was the remaining portion of one textile (8.1 by 12.9 centimeters) that the whole floral design could not be seen. What remained of the design was a five-lobed floral center and downward-curving petals or leaves (Figure 6C and Plate VIII). Whole petals alternated with bands which resembled segments of petals. The large flower seemed to be set at an angle to the warp and filling of the satin ground fabric. A single small twig with two leaves and a flower composed of six circles was also visible.

Numerous floral shapes were present on a cut velvet fabric designated as "Utrecht Velvet, 1650-1700" (Plate IX). The most complex flower was composed of five petals, four of which were scalloped and had interior, flecked or linear details. The fifth petal was developed from superimposed rows of scallops, which became narrower toward the
Design A
MMA 36.90.1432

Design B
MMA 36.90.448

FIGURE 5
TWO FIGURED VELVETS
Design A
V and A 979-1899

Design B
V and A 33-A-1903

Design C
V and A 564-E-1884

FIGURE 6
THREE FIGURED VELVETS
Plate IX. Figured velvet, 1650-1700, Utrecht.
No number. Bisschoppelijk Museum, Haarlem.
scrolled tip. A simple, six-petaled flower was shaped like a daffodil, viewed frontally, which intersected with the elaborate, scalloped flower. Other scrolled and scalloped plant shapes covered the visible surface. Each shape had internal details; several shapes were embellished with intricately scrolling lines, which resembled vine tendrils.

Several of the figured pile fabrics were covered with a stylized version of a plant form. Angular C-shapes were placed like brackets around a cluster of small circles on one sample, as can be seen in Figure 6A and Plate X. Another fabric was covered with five-leaved plants, which were set at an angle within irregular, rectilinear frames (Figure 6B and Plate XI). Figures which resembled blunt-armed Greek crosses were placed on sharply undulating stems on a third small-figured velvet (Figure 7E and Plate XII). Small plants were placed within the ogival lattice of another velvet textile (Figure 7D and Plate XIII). Stylized twigs with two blossoms and one leaf were scattered over a fifth sample. Diamonds and parallelograms were sprinkled among the twigs (Figure 7C and Plate XIV).

A further variation of the stylized plant motif consisted of six-lobed leaves which alternated with twigs containing five circular blossoms (Figure 8E). Another fabric was entirely covered with minute figures composed of a five-petaled flower and a five-part leaf. The leaf
Figure 7
Five figured velvets
Design A
V and A 1131-1877

Design B
ABM 981-C

Design C
ABM 944

Design D
ABM 981-P

Design E
MMA 33.95.35A

FIGURE 8
FIVE FIGURED VELVETS
Plate XIV. Figured velvet; no provenance obtained.
The fabric warp is horizontal in the photograph.
and flower sections were joined like the arms of a wide-angled V (Figure 7B).

The remaining figured pile fabrics studied had a diversity of motifs, which could not readily be classified. One fabric had tiny, five-lobed leaves set in rows which faced alternately left and right (Figure 7A). A severely abraded piece appeared to have been decorated with heart shapes, which were surmounted by diamonds and surrounded by linear details (Figure 8B). Another fabric was covered by a honeycomb of diamonds and octagons (Figure 8C). A velvet fabric in poor condition had motifs which were difficult to describe (Figure 8D). Each motif appeared to have been composed of a diamond, below which were placed two Y-shapes, one nested in the other. The upper Y was drawn in such a way that it resembled upraised arms.

Simplified almost beyond recognition were the twig-shapes on one figured velvet fabric (Figure 8A). The twigs were made of two elongated, parallel S-shapes, set at an angle to the warp and filling of the fabric. Tiny, curved prongs projected from the sides of the S's. In another sample, modified C-shapes were turned so that they faced each other. Between the C's was placed a figure with an elongated upper portion and a five-pointed lower portion (Figure 9A). Unusual was the sample covered with interlacing bands of scallops (Figure 9C and Plate XV). Clusters of teardrops were placed between the rows of scallops.
Design A
V and A 1117-77

Design B
V and A 1031-1900

Design C
V and A 1004-1899

FIGURE 9
THREE FIGURED VELVETS
The last of the figures with woven pile designs (the thirty-second) was covered with a two-part motif. The inner part of the motif was made of a ring of dots (Figure 9B). The peripheral part of the motif had four S-scrolls and four other units, each made of eight lobes. The lobed figures were placed like the points of a compass within the peripheral ring.

The thirty-third sample was an embossed velvet, the only seventeenth century velvet of the kind examined by the researcher (Plate XVI). Undulating groups of figures were pressed or stamped on the red velvet pile. Many types of flowers were used, along with elaborate scrolled bands.

Treatment of the Motifs

None of the flowers described in the preceding section appeared to have been copied directly from nature. Even the flower which resembled a daffodil had a disproportionately small trumpet. Thirty-two of the samples were decorated with plant or animal forms which had been simplified to some degree. The extent of the simplification varied from moderate to extreme. In a few cases, fantasy forms replaced the natural details of the floral or animal figures. Only the honeycombed pattern consisting of diamonds and octagons was wholly geometric in nature.
Organization of the Textiles' Surfaces

Within the following section are discussed the grouping of motifs on the textiles and the types of repeats. The connection or isolation of units, the outlines of the design units, the dimensional quality of the designs, the sizes of the motival units and the width of the fabrics are also presented.

The Principal Grouping of Motifs

Most of the textiles studied had one principal visual unit or one direction of visual emphasis. However, the honeycombed velvet sample, two of the velvet pieces woven with a floral design and the embossed velvet were covered with patterns in which a specific unit could not be identified. Eight samples had patterns which were visually organized into straight horizontal rows. An equal number of silks had horizontal rows with individual units so spaced that a diagonal emphasis resulted. Two silks had figures which were distributed in a zig-zag arrangement and four samples had motifs set in wavy or undulating horizontal rows. Ogival or diamond-shaped visual emphasis was present in two silks; vertical emphasis, in another silk. Four samples were either too small or the pile was too severely worn to determine the unit of visual organization.

The Type of Weaving Repeat

The comber repeat was most frequently used in the figured velvets; it was present in twenty-four samples.
Six textiles had a symmetrical, staggered, dropped point repeat. Two samples were so small in relation to the size of the motif that the type of repeat could not be determined. Motifs in both pieces appeared to have been asymmetrically designed. Hence, the comber repeat might have been used. No repeat was present on the stamped velvet, which had no woven design. Even the size of the embossed design could not be estimated from the existing piece.

The Connectedness or Isolation of Motival Units

Twenty-two of the figured pile fabrics had motival units which were isolated from each other on the visual background of the textile. The two samples with designs running in undulating bands had motifs connected horizontally but not vertically. Eight silk pile fabrics had completely connected units, touching each other both horizontally and vertically. One sample was too small to judge the pattern on the characteristic of connected or discrete motifs.

The Outlines of the Motifs

Eleven figured pile fabrics had motifs with crisp outlines. In five samples, the figures were skillfully designed and woven so that the visual precision of the motival boundaries was enhanced. A second group of five samples had crisp outlines as a result of the sharp contrast between
the weaves of the figures and the background. The motifs themselves were crudely designed. The eleventh sample that had crisply outlined figures was the embossed velvet.

Ten figured pile fragments were so badly abraded that a blurring of figural outlines had occurred. Five other textiles had figures which were ineptly designed and therefore lacked clearcut outlines. An additional seven samples had a low degree of figure-background contrast because the textile had been dyed in a monochromatic color scheme. Of the seven samples, six were woven in a combination of cut and uncut pile, which further decreased the distinction between figure and background.

The Dimensional Quality of the Motifs

The designs of twenty-five samples were lacking in spatial depth, but had textural depth because of the contrast between pile figures and plain or satin ground weave. Two other textiles had both depth of pile and a slight overlapping of figures, which might be indicative of an attempt to show spatial depth. Neither spatial nor textural depth was found in six pieces; figures did not have much contrast with the background.

The sizes of Pattern Repeats

Of the thirty-three figured pile fabrics, twenty-nine samples had a complete lengthwise repeat intact. The repeat size varied from 1.4 to 24.7 centimeters. In
twenty-nine samples, the width of a complete design unit could be measured. The range for the width of a motival unit was 1.3 to 19.0 centimeters. In one fragment, the visible remainder of the lengthwise repeat was 21.5 centimeters; the existing portion of the width of the pattern was 20.5 centimeters. A second incomplete piece apparently had a repeat longer than 39.0 centimeters. In all but two textiles, the dimension of the motival unit was greater in the length than in the width. Usually, the vertical repeat consisted of two staggered units, while the horizontal motif was often composed of a single figure. No measurement of repeat was attempted for the embossed velvet because the design was not woven; a woven repeat was not present.

The Selvage-to-Selvage Widths

Only two examples of seventeenth century silks which were selected for study had both selvages intact. The width of one panel was 55.9 centimeters; for the second panel it was 50.5 centimeters. The narrower of the two examples was as narrow as the possible Dutch silks cited by Kalf and van Ysselsteyn.²

²Kalf, "Catalogus...," 21; van Ysselsteyn, "Het Haarlemse smalweversgilde," 34.
Other Aesthetic Characteristics
of the Figured Pile Fabrics

In the following section is given a complete account of the colors found in the figured pile fabrics. Munsell color notation is used. Selected colors are illustrated in Appendix F. Inclusion of all identified colors was not financially feasible. Also, the types of visual contrast in the textiles are summarized.

Colors

Some aspects of color description used in the Munsell System may be useful to review at this point. In the Munsell System, the color hue is designated both by a number and the name of a hue family, such as 7.0 Yellow, which would be a yellow of a slightly greenish tinge. Two numbers are placed after the hue designation and are separated by a slash mark. The number to the left of the slash mark denotes the lightness or darkness of the color (value); the number to the right of the slash mark specifies the brightness or dullness of a color (saturation or intensity). A color designation of 7.0 Yellow 8/6 would indicate a slightly greenish yellow of light value and medium brightness. Further information about specific color descriptions is provided in the following paragraphs.

Twenty-two of the thirty-three figured pile fabrics examined were woven in a single color. Contrast of value was created by variation in the background and figure
weaves. Most prevalent was the combination of cut and uncut pile figures with a satin or plain ground weave. Two textiles were woven in two colors, very closely related in hue. The remaining nine samples had definite contrasts of two dissimilar hues.

It would be unwise to make generalizations about the color range of late sixteenth and seventeenth century figured velvets on the basis of thirty-three samples. A tendency existed within the pieces examined to use colors belonging to the hue families of Red Purple, Red, Yellow Red, Yellow and Yellow Green. The segment of the Munsell color ring which included Green, Blue Green, Blue, Purple Blue and Purple appeared infrequently in the figured pile fabrics.

Seven samples were black or almost black according to the Munsell scale of values. Two textiles were rated by the researcher as 1.0 Black; three as slightly redder than 1.0 Black; one as slightly yellower than 2.0 Black; and one as 3.0 Black. Another color was described as a Gray which was slightly yellower than 5.5 on the Munsell value scale. The reader is reminded that the higher numbers in the case of colors in the Black-White scale represent colors nearer to Gray than to true Black.

Numerous Reds and Yellow Reds were found in the figured pile fabrics. The researcher identified the following Munsell colors: 5.0 Red 3/8, 5.0 Red 4/8, 5.0 Red 7/8,
circa 4.0 Red 4/2, c. 3.0 Red 4/6 and c. 3.0 Red 4/8. Reds with the numbers 3.0 and 4.0 were slightly bluer than middle Reds of 5.0. Yellow Reds were present in several varieties: 5.0 Yellow Red 7/2, c. 2.0 Yellow Red 4/4, c. 3.0 Yellow Red 4/6, c. 6.0 Yellow Red 8/2, c. 7.0 Yellow Red 7/6, c. 7.0 Yellow Red 7/10 c. 7.0 Yellow Red 5/10, c. 8.0 Yellow Red 5/6, c. 8.0 Yellow Red 7/2, c. 8.0 Yellow Red 6/10, c. 8.0 Yellow Red 3/2 and c. 9.0 Yellow Red 5/6. Yellow Reds preceded by the numbers 2.0 and 3.0 in the present series had proportionately more red in the hue; those Yellow Reds preceded by 6.0, 7.0, 8.0 and 9.0 had proportionately more yellow in the hue.

Yellows were less frequently found in the figured pile textiles. The types identified by the researcher were 5.0 Yellow 8/2, c. 2.0 Yellow 4/2, c. 2.0 Yellow 8/8, c. 3.0 Yellow 4/4 and c. 3.0 Yellow 4/2. Yellows preceded by the numbers 2.0 and 3.0 were closer to reddish Yellows than to greenish Yellows. Green Yellows in the series were found to be 5.0 Green Yellow 5/6, 5.0 Green Yellow 4/4 and c. 3.0 Green Yellow 4/8. The single 3.0 Green Yellow had more yellow than green in its composition. The single Green found among the samples was 5.0 Green 5/4.

Blues, Purple Blues, Purples and Red Purples were present in only a few varieties. Blue Greens were totally absent from the figured velvets studied. A single Blue, a slightly greenish Blue of about 4.0 Blue 6/2 was described.
Purple Blues were confined to 5.0 Purple Blue 3/4. Three Purples were described, namely 5.0 Purple 2/4, c. 1.0 Purple 3/2 and c. 10.0 Purple 3/2. The 1.0 Purple was very much bluer and the 10.0 Purple very much redder than a middle Purple. Red Purples present included those rated as 5.0 Red Purple 4/2, 5.0 Red Purple 3/2 and 5.0 Red Purple 2/4.

Visual Contrasts

The figured pile fabrics were examined for contrasts of hue, value and luster or sheen in the design. Nineteen samples had some degree of value contrast, created by the combination of cut and uncut pile with plain or satin ground weave. In a few samples, the value contrast was so pronounced that museum workers had described the sample as being two-colored. Eight textiles had contrasts both of hue and of value in the design. Two samples were lacking in any noticeable contrasts and four samples were too badly deteriorated to be judged on overall appearance.

Weaves and Yarns

Several combinations of weaves were found in the figured pile fabrics. Figures made of both cut and uncut pile were used on either plain or slightly ribbed ground fabrics in nine samples. Cut, but not uncut, pile figures were woven on plain ground fabric in six pieces. Six other pieces were composed of cut and uncut pile figures on a
satin ground weave. One of the six also had filling yarns floating over coarse warp cording in portions of the floral motifs (Plate VI). A third set of silks was designed with a plain ground fabric and had cut or uncut pile over the entire right side of the fabric. Motifs on the fabrics were developed from contrasts of cut and uncut pile. Present in four samples was a satin ground weave covered with cut or uncut pile and ornamented with cut pile figures. The single embossed velvet consisted of a plain ground fabric and a warp pile face.

Except for four samples, the figured pile fabrics were made entirely of silk. Two pieces had linen yarns. Two additional samples had metallic yarns incorporated into the design.

Textiles in Coeval Dutch Portraits

Textiles portrayed in two works by Frans Hals resembled some of the figured pile fabrics examined in the present study. Captain Nicolaes Le Febure, who is Number 3 in the "Banquet of the Officers of the St. George Company,"\(^3\) was painted in a doublet and breeches which appeared to have been made of figured velvet or velours. In Hals' "Portrait of an Elderly Woman,"\(^4\) (Plate XVII), the sitter seemed to be wearing a bodice and reveres made of figured velvet.

\(^3\)Dated 1627. Frans Halsmuseum.

\(^4\)Dated 1635. Copyright The Frick Collection, New York.
Aesthetic and structural characteristics of two groups of late sixteenth and seventeenth century figured silks are discussed in the following pages. One group was found in the Gemeente-Archieven van Haarlem. The other silks came from various museums and were selected for the resemblance to silks seen in Dutch portraits of the late sixteenth and seventeenth centuries.

Provenance of the Samples

Eight small pieces of silk were attached to Notarial Protocol Number 468, housed in the Gemeente-Archieven van Haarlem. The samples were sealed on a legal document which contained the statement that the pieces were fragments of the so-called Haarlem narrow silks. The document was signed on 18 August 1678 by eight men, whose status was not explained. One of the samples was plain velvet; it was not included in the present study of figured silk textiles.

Nine samples of patterned silks were found in various museums visited by the researcher. In the Bisschoppelijk Museum, Haarlem, was located a small piece of silk brocade with metal yarns. No country of origin was cited but for
the date, '1600-1650' was written on the label attached to the piece. Two fragments of black silk belonged to the Victoria and Albert Museum, London. Both pieces were dated late sixteenth century and were attributed to Italian weaving mills.

Five silk textiles of miscellaneous types were studied in the Aartsbisschoppelijk Museum, Utrecht. One piece was a "half-silk damask," dated seventeenth century and believed to have been made in France. Seventeenth century Italy was given as the source of a ribbed silk with small figures. Three fragments of one type of figured silk were said to have been French and to date from either the early seventeenth century or from the reign of Louis XIV (1643-1715). Seventeenth century Italy or Spain was believed to have produced a green silk damask. Finally, a small piece of silk with S-shaped figures in striped arrangement was found. No description of the sample could be located in museum records since no accession number was attached to the fragment. Nevertheless, the S-figured piece was included in the study because of the strong resemblance to fabrics portrayed in late sixteenth century Dutch portraits. A single length of silk dating from the end of the seventeenth century or the beginning of the eighteenth century was found in The Metropolitan Museum of Art, New York City. It was tentatively assigned to Dutch factories.
Several pieces were not attributed to the Netherlands, yet they were similar to fabrics seen in seventeenth century Dutch portraits. There was a possibility that the fabrics which were studied might resemble the silks actually produced in Dutch factories at the same period. Therefore, the fabrics are described in this chapter.

**Description of the Haarlem Samples**

The seven figured silks in the Gemeente-Archief van Haarlem are discussed with respect to the motifs, the aesthetic characteristic which can be judged and the types of weaves and yarns used. Descriptions of the silks by van Ysselsteyn and Thornton are included at the appropriate points. Samples are numbered according to the order used by van Ysselsteyn.

**Motifs**

The motifs which were found on the Haarlem samples were floral in five instances and striped in two instances. A specific description of the motifs and their treatment follows.

**Identification of the Motifs**

On Sample One the principal motif was a flower (Plate XVIII), the petals of which had fringed edges. Five leaves were wholly or partially visible as well as a portion of two stems and one half of a small blossom, which the

researcher could not identify. The large flower had been identified as a rose by van Ysselsteyn,¹ but the smaller flower did not resemble a rose bud. Since the piece measured 5.2 by 9.0 centimeters at the largest dimension, no further detail of the motif could be seen.

Sample Two, a silk damask, measured 5.7 by 15.0 centimeters and was decorated with what appeared to be undulating vertical bands, within which were placed scrolling strands of flowers (Plate XIX). Several sizes and configurations of leaf were present but only one whole flower was visible. Possibly designed to represent a tulip, the blossom had checkered details within the petals, as had a few of the leaves. According to van Ysselsteyn,² the bands measured 7.0, 2.0, 4.0 and 0.5 centimeters in width. Some of the measurements given above were for bands which were incomplete because of the small size of the sample.

Curving sprays of flowers and leaves covered much of the surface of the third piece, a brocade which measured 9.5 by 15.0 centimeters (Plate XX). The design included three styles of blossoms, one of which slightly resembled the flower of a wild rose. Outlining the undulating branches were slender, plume-like leaves. The


²Ibid., 29.
fourth sample was decorated with figures made by the broché technique. The 7.0 by 15.3 centimeter fragment had blossoms, leaves and branches which curled and twined in sharp curves. Specific flowers were not identifiable.

The fifth sample had been sealed face down on the document when it was prepared in 1678, so that the colors on the right side of the fabric were well preserved (Plate XXI). The piece was also decorated in broché with a large, fluttery blossom and twining leaves. What appeared to be a solid green stripe bordered one edge of the section containing the flower. The maximum dimensions of the L-shaped piece were 8.7 by 12.2 centimeters.

The last of the figured pieces were two small samples of striped fabrics (Plate XXII). Number Six, 2.8 by 5.8 centimeters, had straight vertical stripes combined with wavy, steeply diagonal stripes. The diagonal stripes cut across the vertical ones. Narrow, straight, vertical stripes comprised the pattern of Sample Seven, which measured 3.1 by 5.9 centimeters. Van Ysselsteyn noted that the stripes on both pieces roughly measured 0.2 centimeters each.

---

3 A broché fabric is decorated with an extra set of either warp or filling yarns. The yarns are not an intrinsic part of the fabric structure and generally float between patterns on the wrong side of the fabric, rather than being interlaced in the basic fabric structure.

Plate XXXI. Two small-figured silks, 1678, Haarlem. Samples Six and Seven. Gemeente-Archief, Haarlem. The fabrics are enlarged approximately twice normal size in the photograph. The fabric warp is horizontal in the photograph for both samples.
Treatment of the Motifs

The five floral silks had both moderately stylized forms (Numbers Two and Three) and more nearly naturalistic ones (Numbers One, Four and Five). Naturalism in the last three pieces was greater than in any of the figured velvets previously described (Pages 42-71). Flower petals appeared lifelike in their irregularity. Contrasts of hue and value were used to give a three-dimensional appearance to the motifs. Two other samples were of striped silk and were entirely geometric in pattern.

Organization of the Textiles' Surfaces

Because of the very small size of the seven Haarlem samples of silk, some characteristics of visual organization were impossible to assess. Insofar as possible, an evaluation was made of the major motival group, the type of repeat, the outlines of the motifs, the dimensional quality of the motifs and the sizes of repeats.

The Principal Motival Group

Sample Two appeared to have undulating vertical bands as the major motival unit. In Sample Five, straight, horizontal bands might have been the principal grouping. A sufficiently large area of the design was not present for a decision to be made about Sample Five. Pieces Six and Seven seemed to have an overall pattern of narrow stripes; no isolated unit of design was present. For Samples One,
Three and Four, the small size prevented estimation of the principal visual unit.

**Types of Repeats**

Sufficient motival area was not present in Samples One through Five for a decision to be made regarding the type of repeat. Since all five samples appeared to have come from fabrics with asymmetric designs, the comber repeat might have been used in one or more of the original fabrics. Thornton\(^5\) reported that the comber repeat had been used. He commented that the swaying lines of the designs were lively but that the often-used alternating rows of motifs were still present. The small motifs of the striped pieces, Samples Six and Seven, did not fit into any category of repeat.

**Connection or Discreteness of Motifs**

Only Samples One through Five will be discussed with regard to connectedness or discreteness of motifs. Samples Six and Seven contained stripes and could not be rated meaningfully on the characteristic. Design units in Sample Three were discrete; in Sample Five, they were completely connected. Samples One and Four were too small to determine whether the motifs were connected or discrete.

---

Crisp or Blurry Motival Outlines

Motival outlines appeared to be crisp in Samples One and Two. Pieces Three through Seven had motifs with blurry or indistinct edges. In the case of the broché samples (Three, Four and Five), the ornamental yarns were placed too far apart to produce a sharp-edged motif. A really crisp-edged motif did not emerge in Samples Six and Seven because of the minuteness of the stripes and their crossing over each other.

Dimensional Quality of the Motifs

The motifs in Silks One, Two, Three and Seven were essentially flat. In the floral silks (One, Two and Three), however, absolute flatness was relieved as the result of internal details. A slight degree of the illusion of depth was created. Samples Four and Five were given a somewhat more three-dimensional quality than Samples One, Two and Three by the use of contrasting hues, values and intensities within the motifs. Number Seven had a hint of depth from the crossing of diagonal, wavy stripes over straight, vertical ones.

Dimensions of the Motival Units

Neither the length nor the width of a complete motival unit could be measured for any of the seven samples. Sizes of the small stripes were mentioned in the discussion of motifs on page 89.
Other Aesthetic Characteristics

In the following section, an account of the colors present in the Haarlem samples will be given. The reader is referred to pages 77-78 for an explanation of the Munsell Color System. Visual contrasts will also be summarized.

Colors

Although the Haarlem samples were only seven in number, a wide variety of colors was found in the group. The only hue families which were not identified in the group were Blues and Blue Greens. Four types of Red occurred in the samples and were described according to the Munsell System as 5.0 Red 4/4, 5.0 Red 4/2, c. 6.0 Red 8/2 and c. 6.0 Red 6/10. The 6.0 Reds were slightly yellower than middle Red. Numerous Yellow Reds were found and were identified as 5.0 Yellow Red 2/2, 5.0 Yellow Red 5/2, 5.0 Yellow Red 5/8, 5.0 Yellow Red 4/6, c. 6.0 Yellow Red 8/4, c. 7.0 Yellow Red 8/2 and c. 9.0 Yellow Red 8/2. Yellow was predominant over red in the 6.0, 7.0 and 9.0 Yellow Reds. Yellows were represented by 5.0 Yellow 2/2 only.

Green Yellows were found to approximate 4.0 Green Yellow 8/6 (slightly more yellow than middle Green Yellow) and 10.0 Green Yellow 5/4, which was very close to a true Green. Green was found in a rather bluish form identified as c. 9.0 Green 4/4. Blue Greens and Blues were not found.
Purple Blue was identified as 5.0 Purple Blue 8/2. Two Purples were found and were described as 5.0 Purple 8/2 and c. 8.0 Purple 5/6, which had a relatively high proportion of red in its composition. Finally, 5.0 Red Purple 8/2 was identified.

Discolored white and tarnished gold were also present in the group of samples. Because of the marked loss or distortion of color, it was deemed that a precise color identification of the deteriorated portions of the samples would be misleading. Further, for the near-white range of values, the Munsell color standards available to the researcher were insufficiently precise.

Considered by individual samples, the color schemes were as follows:

**Sample One**: c. 7.0 Yellow Red 8/2 and 5.0 Yellow Red 2/2.

**Sample Two**: 5.0 Yellow Red 5/2, c. 9.0 Yellow Red 8/2, 5.0 Red 4/2 and discolored white

**Sample Three**: c. 10.0 Green Yellow 5/4, 5.0 Red Purple 8/2 and tarnished gold

**Sample Four**: 5.0 Red 4/4, c. 6.0 Red 8/2, 5.0 Red Purple 8/2, c. 4.0 Green Yellow 8/6 and c. 6.0 Red Purple 6/8.

**Sample Five**: 5.0 Yellow Red 5/8, c. 6.0 Red 6/10, c. 9.0 Green 4/4, 5.0 Purple 8/2 and 5.0 Red Purple 8/2

**Sample Six**: c. 8.0 Purple 5/6, 5.0 Yellow Red 5/6 and discolored white

**Sample Seven**: c. 6.0 Yellow Red 8/4, 5.0 Yellow 2/2 and 5.0 Purple Blue 8/2
Visual Contrasts

Samples One, Two and Three had predominant contrasts of hue, value and intensity of color; a less noticeable contrast of luster was also present. What little contrasts Samples Six and Seven had were the result of the values and intensities of the colors. Luster contrasts prevailed in Samples Four and Five, since color contrasts were not especially strong.

Weaves and Yarns

A variety of weaves and yarn types were found in the seven Haarlem samples. Each weave will be explained, followed by a description of the yarns used in the samples.

Weaves

Sample One was a damask fragment; the pattern was developed from the use of two types of yarns in a right hand twill weave. The second swatch was also a damask; a combination of left hand twill and filling satin floats was used to form the figures. Sample Three had a solid colored satin ground and flowers produced by the broché technique. Extra filling yarns were brought to the surface to produce the pattern, which was composed of short floats in the filling direction. Metallic yarns as well as silk ones were used in the figures.

6All samples except Number Five were glued to the Notarial Protocol Number 468, so that the reverse sides of the weaves could not be seen.
Sample Four seemed also to incorporate the broché technique to produce figures on a left hand twill ground. Sample Five was a silk brocade based on a left hand twill. Although the filling yarns floated on the right side to form the pattern, they were interlaced with the ground weave on the wrong side of the fabric; broché was not used. Samples Six and Seven had right hand and left hand twills, respectively, as the basic interlacing of the small figured weaves. Van Ysselsteyn referred to the small pieces as "pellepatroontjes," a Dutch term for small figure weaves which are developed from contrasts of plain, twill or satin weaves.

Yarns

Except for Samples One and Three, all pieces appeared to have been woven entirely of silk. Sample One had a filling made of a pure wool or blended wool and spun silk yarn. Sample Three incorporated pale gold metallic yarns. Loosely twisted silk yarns were thicker in the pattern than in the ground weave in Samples Three and Four. Thicker filling than warp yarns were used in Sample Seven.

Description of Samples from Other Museums

Nine silk samples of late sixteenth to turn-of-the eighteenth century date are discussed in the following

Motifs, organization, other aesthetic characteristics and fabric structure are presented as they were in the section devoted to the samples from the Haarlem Gemeente-Archief.

Motifs

Floral motifs of several types predominated in the group of silks. Variation existed in the motifs and their aesthetic treatment.

Identification of the Motifs

Four varieties of small blossoms were arranged in alternating rows on the surface of the metallic brocade fragment (Plate XXIII). Each style of blossom had a short stem and a single small leaf. One flower had a U-shaped outline. In the next row was a flower with a single upright petal flanked on each side by two arching petals. Next was an eight-petaled, not unlike a daisy. Finally, a small, plump flower derived from a pomegranate was present.

Both black silk damasks had floral sprays. The first had two types of sprays containing, respectively, pineapple-and pomegranate-like flowers. Oak-like leaves were used as were some non-floral forms which could not be seen distinctly enough for identification because of the wearing away of the fabric surface. The second black damask was ornamented with complex, S-shaped blossoms.
based on tulips and pomegranates. Small dots outlined the stems of the flowers (Plate XXIV).

On the French silk of the seventeenth century were displayed three small floral forms (Figure 10A). One blossom had an outward curving lower portion surmounted by three rounded forms. A second bloom was composed of five petals, one of which was hooked at the top. The third tiny, bud-like form had a three-petal base topped by a tapering trumpet.

The Italian silk from the beginning of the seventeenth century had a single style of blossom with scrolled stem and two leaves (Figure 10B). The flower itself resembled a pineapple, with eyes within the blossom and hook-like projections along the periphery.

Several shapes covered the three small fragments of French Louis XIV or early seventeenth century silk (Figure 11A). Two types of S-shaped flowers were set on thick, reverse-curved, horizontal stems. Each type of blossom had two tripart leaves. One flower resembled a small tulip, topped by a crown with four prongs. The second flower was similar to a fleur-de-lis but had a hook-shaped central projection. Scattered among the blossoms were short wands, from the ends of which extended a five-pronged shape, somewhat like a leaf.

A highly stylized S-shape, pomegranate-like figure covered the Italian or Spanish damask (Figure 11B). There
FIGURE 10
TWO SILKS

Design A
French Silk
ABM 891

Design B
Italian Silk
ABM 896
Design A
ABM 921
French Silk

Design B
ABM 898
Italian or Spanish Damask

FIGURE 11
TWO SILKS
were two major designs of leaves on the stem, one with a single blade, full at the base and tapering toward the tip. The second leaf had five rounded, undulating lobes. There were also small, curved projections along the stem. The U-shaped blossom had an inverted teardrop form and three dots extending from the arms of the U. On the unlabeled small silk sample were stripes of small S-shapes and larger, more complex interlocking S's.

The late seventeenth–early eighteenth century silk panel of possible Dutch origin had a very elaborate pattern, quite different from the small figures previously described (Plate XXV). Numerous flowers were incorporated into the arrangement. For the most part, the flowers were fantasy shapes, but one type of shaggy blossom seemed to approximate a peony. Small flowers with grooved petals might have been derived from one type of carnation. Heart shapes framed the central motif-group.

Treatment of the Motifs

For the most part, the motifs were designed as stylizations of natural forms. Only the S-shapes on the striped fabric were purely geometric. A few semi-naturalistic blossoms, such as the previously-mentioned peony and carnation, were found in the seventeenth–eighteenth century panel.
Organization of the Textiles' Surfaces

In the following section, motival grouping, the type of repeat, the connection or discreteness of motifs, the sharpness of motival outlines, the dimensional quality of the motifs and the sizes of the repeats are discussed for the nine assorted seventeenth century silks. Selvage-to-selvage width is cited for the turn-of-the-eighteenth century panel, which was the only sample with both selvages intact.

The Grouping of Motifs

Horizontal rows were the structural and visual units of the motif in both of the black silk damasks and in the Italian silk with the pineapple design. The motifs in the two French silks, the brocade and the Italian or Spanish damask were arranged so that a diagonal visual emphasis was created. Vertical rows were visually dominant in the unidentified silk with S-figures. In the late seventeenth-eighteenth century panel, the centermost unit was approximately an oval. Visual brackets were created around the central oval by two half-motifs.

The Type of Repeat

As in the figured pile fabrics, the comber repeat was most frequently used in the miscellaneous group of silks. Clear evidence of the use of a comber repeat was found in the brocaded silk, one black damask, both French silks and
the Italian or Spanish damask. The other black damask could not be described with certainty in respect to the type of repeat, but it also appeared to have the comber repeat. The small striped fabric had symmetrical repeats across the surface. Alternation of rows, typical of the comber repeat, was absent from the S-figured fabric. One large, symmetrical design was repeated down the length of the seventeenth-eighteenth century piece. Hence, the design did not fit the comber, dropped point or point repeats.

The Connection or Isolation of Motifs

Seven of the nine silks had totally isolated motif units. In the striped silk, motifs were connected vertically but not horizontally. The late seventeenth-eighteenth century silk had an intricate pattern with parts connected both horizontally and vertically. However, a small area of plain background resulted in a separation between the central oval grouping and the sides.

The Sharpness of the Motif Outlines

Five samples of silk had figures crisply outlined against the ground, due both to the precision of the design and the quality of the weaving. Blurring of the outlines of the motifs was found in both of the black damasks, in the Louis XIV silk and in the late seventeenth-eighteenth century silk. The color and the age of the two black damasks seemed responsible for the absence of clearly
defined motival outlines. Damage due to age seemed to have caused the haziness of the edges of design units in the so-called Louis XIV silk. Certain portions of the panel from the turn-of-the-eighteenth century had motifs which were loosely woven, so that indistinct outlines of the figures resulted.

The Dimensional Quality of the Motifs

Spatially flat handling of motifs on background was found in eight of the silks. None of the small figured samples had been designed to give the illusion of three-dimensional figures. Much of the surface of the turn-of-the-century piece was also spatially flat in the design. However, a few blossoms had been given the appearance of volume by the use of various colors, akin to the use of various hues, values and intensities in painting.

The Sizes of the Repeats

The eight late-sixteenth-through-early-seventeenth-century silk samples had fairly small repeats, both vertically and horizontally. The length of the repeats varied from 3.4 through 11.7 centimeters. The widths of motival groups ranged from 3.5 through 13.6 centimeters. In contrast to the small patterns, the turn-of-the-century panel had a lengthwise repeat of 55.8 centimeters. The figured area, excluding the selvages, measured 42.0 centimeters.
The large repeat was typical of changes in the design of textiles between the beginning of the seventeenth and the beginning of the eighteenth centuries.

**The Selvage-to-Selvage Width**

Only the late seventeenth-eighteenth century panel was a full piece of fabric with both selvages intact. Including the selvages, the piece was 43.0 centimeters wide. The measurement would place the fabric within the range of widths for Dutch silks suggested by Rothstein.\(^8\)

**Other Aesthetic Characteristics**

The group of nine samples had considerable variety of color, varying from solid black to designs composed of several hues. Color identification and the types of visual contrasts found in the silks are described in the following section.

**Color**

Numerous derivatives of the basic hues were present in the group of silks. Reds were represented by 5.0 Red 5/10, 5.0 Red 8/2, 5.0 Red 7/8, 5.0 Red 4/12, c.4.0 Red 5/6 and c. 1.0 Red 4/10. Reds preceded by the numbers 1.0 and 4.0 are bluer than middle Red. Yellow Reds were identified as being approximately 3.0 Yellow Red 6/12, 6.0 Yellow Red 8/4, 7.0 Yellow Red 6/10, 8.0 Yellow Red 7/2,

---

\(^8\)Rothstein, "Dutch Silks...," 158, 168.
8.0 Yellow Red 8/2 and 7.0 Yellow Red 8.75/2. (The latter is the closest estimation which the researcher could make of a very light, rather yellowish Yellow Red.) Yellow Reds preceded by the number 3.0 were predominantly reddish; those preceded by the numbers 6.0, 7.0 and 8.0 were predominantly yellowish. In the Yellow family, only c. 4.0 Yellow 5/10, slightly redder than middle yellow, was identified.

Green Yellows were named as 5.0 Green Yellow 3/4, c.4.0 Green Yellow 6/8 and c.9.0 Green Yellow 3/4. The latter hue was predominantly green, while the 4.0 hue was slightly more yellowish than middle Yellow Green. One Green was present and could be described as c. 3.0 Green 3/4, which was slightly yellower than middle Green. Blue Greens were represented by one type, namely 5.0 Blue Green 6/2. The two Blues in the group of silks were classified as 5.0 Blue 8/2 and 5.0 Blue 6/2.

Purple Blue of the variety c. 6.0 Purple Blue 3/4 was identified; it was slightly nearer to Purple than was a middle Purple Blue. Two Purples, 5.0 Purple 2/2 and 5.0 Purple 3/2 were described. One type of Red Purple was found, approximately 8.0 Red Purple 3/8. Proportionately more red than purple was present in the specific color.

Some varieties of Black were found and rated on the Munsell value scale. Blacks in the silk damasks were, in
one case, close to true Munsell 1.0 Black and in another case, slightly redder than the less dark 3.0 Black. Tarnished silver wire could not readily be given a color rating, even on the value chart.

Fabrics in which multiple colors were found had the following color combinations. The French seventeenth century sample contained c. 4.0 Red 5/6, 5.0 Green Yellow 3/4 and c. 8.0 Yellow Red 8/2. The alleged Louis XIV silk had 5.0 Purple 2/2, c. 4.0 Yellow 5/10 and 5.0 Blue Green 6/2. On the Italian silk with the pineapple motifs were found the colors 5.0 Blue 6/2 and c. 7.0 Yellow Red 8.75/2. Among the colors on the S-figured silk were c. 8.0 Yellow Red 7/2, c. 7.0 Yellow Red 6/10, c. 4.0 Green Yellow 6/8 and 5.0 Purple 3/2. Discoloring was more severe on the face of the latter fabric than on its reverse side.

Several colors were used in the late seventeenth-eighteenth century panel. The ground weave was approximately 3.0 Green 3/4. Ornamental yarns included c. 1.0 Red 4/10, 5.0 Red 5/10, 5.0 Red 8/2, 5.0 Red 7/8, c. 3.0 Yellow Red 6/12, 5.0 Blue 8/2, c. 6.0 Purple Blue 3/4 and c. 8.0 Red Purple 3/8. Only one color found in the panel was also found in the Haarlem silks, 5.0 Red 8/2. Hence no evidence could be adduced from color similarities to substantiate or refute the possible Dutch origin of the piece. Moreover, the number of identified Dutch seventeenth century silks seen was too small for a judgement to
be made regarding the origin of the seventeenth-eighteenth century panel.

**Visual Contrasts**

Contrasts of luster were found to predominate in the brocaded silk sample, in both black silk damasks and in the Spanish or Italian damask. Especially prominent were the luster contrasts in the latter sample because of the use of warp and filling floats in a checkerboard pattern. Color and value contrasts were preponderant in the two French silks and in the Italian pineapple-figured silk. The seventeenth-eighteenth century panel had predominantly a contrast of hues, values and intensities of color. A small amount of contrast of luster was found in all of the silks, including the panel. No accurate assessment of the nature of its contrasts could be made for the badly discolored striped silk.

**Weaves and Yarns**

Because of the considerable diversity of weaves and yarns in the group of silks, each piece is described separately. Specific information about the yarn types could not be determined because of the limitations imposed by the distance from which the fabrics could be examined.

**Weaves**

The metallic brocade had a warp satin ground. Interlacing of the brocade yarns resulted in a left hand twill
effect on the face of the fabric. One black damask had a finely ribbed background and figures made of warp floats of yarn. In the second damask, a warp satin background contrasted with filling floats. The reverse side of the fabric had a left hand twill resulting from the interlacing of ground and figure yarns. The face of the Louis XIV fabric was composed of a plain background and short filling floats in the figures. On the back, the figure-ground interlacing appeared to be a 1/3 basket weave. Minute examination could not be made because the swatch was sealed between layers of rigid plastic.

The Italian pineapple-figured silk had a rough-textured, plain weave ground with a vertical rib. Short filling floats formed the pattern on the fabric face. On the back, the figure-forming yarns were interlaced with the ground weave. The Italian or Spanish damask had a warp satin background and figures made by a basket weave. The figures were developed from vertical and horizontal floats of two to four filling or warp yarns. The possible Dutch turn-of-the-eighteenth century silk panel was made of a large figured weave, the ground of which was finely rubbed. The ground weave fillings formed figures by means of short floats on the fabric face. Multiple colors of purely ornamental fillings were incorporated into the fabric by the brochê technique. On the face of the fabric, the design-forming fillings produced left hand twill lines as they interlaced with the warp yarns of the ground fabric.
Yarns

Only the brocade had yarns from materials other than silk. Both silver metal yarns and gold-colored, silk yarns wrapped with gold colored foil were present in the brocade. The French silk had been described as half silk by the museum staff. Two yarns were inspected under a microscope and were found to contain only silk fibers. If material other than silk were present, it was not found by the present investigator.

Comparison of the Silks Studied to Fabrics in Portraits

Fabrics with a very similar appearance to the silk brocade were visible in a few portraits. The most striking resemblance was seen in the fabric used for the sitter's stomacher or borst in Frans Hals' "Portrait of a Woman."9 Salomon Mesdach's portrait of Pieter Boudaen Courten included a similar type of brocade.10 A counterpart of the S-figured fabric was seen in the sleeves and stomacher in the portrait of Hortensia del Prado.11

9 Dated 1638. Royal Palace, Stockholm.
10 Dated 1619. Rijksmuseum Amsterdam
11 Dated 1596. Gortzius Geldorp. Rijksmuseum Amsterdam
CHAPTER VI

SUMMARY AND RECOMMENDATIONS
FOR FURTHER STUDY

In the present chapter, a summary is given of the research purpose and methodology as well as the predominant aesthetic and structural characteristics of the silks which were examined. Suggestions for future research directions are also offered.

Summary of Purpose and Procedure

The purpose in the present study was to attempt to add to the knowledge of Dutch silks of the seventeenth century through a description of their aesthetic and structural characteristics. Books and scholarly articles were searched for information about the types of silk textiles manufactured in The United Provinces of the Netherlands during the late sixteenth and seventeenth centuries. A descriptive chart was prepared to facilitate the recording of information about the specimens of early Dutch silks which the researcher might be allowed to examine. Simultaneous to the review of literature and the preparation of the chart, extensive correspondence with Dutch, English and United States museum staffs was undertaken.
Silk samples pertinent to the present research were found in museums and archives in Haarlem, Utrecht, London and New York City. Each silk sample was described according to the categories listed on the chart (Appendix D). Whenever possible, the verbal information was supplemented by museum photographs and line drawings of motifs made by the researcher.

Summary of Findings

Certain aesthetic and structural characteristics were found repeatedly within the group of silks studied. Recurrent types of motifs, sizes and types of weaving repeats, motival treatments, colors and kinds of weaves are described in the following section. Since the figured pile fabrics, the Haarlem samples and the mixed group of seventeenth century silks were described separately in Chapter IV and Chapter V, their aesthetic and structural qualities will be summarized in three separate sections.

Figured Pile Fabrics

Most common of the motifs used in the figured pile fabrics were sprays of flowers and plant forms. The majority of motifs were stylized rather than being replications of natural forms. The comber repeat was most widely used; the dropped point repeat was second in frequency. Both types of weaving systems accounted for all of the repeats which could be evaluated.
The majority of textiles had motifs which were entirely separate from each other. There were, however, examples of complete connection or horizontal connection of motival units. Exactly one third of the samples had crisply outlined motifs. Two thirds of the samples had motifs with fuzzy or blurry outlines or could not be judged on clarity of outline. Some causes of indistinct outlines were poor weaving technique, use of a monochromatic color scheme and abrasion of the fabric surface.

Although the majority of the figured pile fabrics had textural depth, few fabrics had designs with any illusion of three dimensions. Design repeats varied in length from 1.4 to 24.7 centimeters and in width from 1.3 to 19.0 centimeters. Colors appearing most frequently were Black, Red, Red Violet, Yellow Red, Yellow and Yellow Green. Value contrasts predominated over contrasts of hue or luster. Common weaves consisted of ground fabric of plain, ribbed or satin design covered with figures of cut and uncut pile. Most fabrics had yarns of silk only, although there were two fabrics with linen and two with metallic yarns.

Haarlem Silk Samples

So small were the seven silk swatches in the Gemeente-Archief van Haarlem that many aesthetic characteristics could not be determined. Motifs consisted of floral forms
and stripes; treatment of forms was either stylized or geometric. Determination could not be made of major moti­val grouping, type of repeat, size of repeat, breadth of fabric or discreteness/connectedness of motifs. Figural outlines were blurry for most samples. Two-dimensional designs were common.

Yellow Reds, Reds and Yellow Greens were frequently identified in the Haarlem samples. All pieces had figure weaves of different types, including damask, broché and small figure weaves. No strong trend was evident in the type of visual contrasts present. One textile contained wool, another metallic yarns. All of the rest were made wholly of silk.

Miscellaneous Seventeenth Century Silks

Stylized floral shapes were found on all of the samples in the mixed group of seventeenth century silks. Visual grouping of motifs was usually either horizontal or diagonal. Isolated motifs woven in the comber repeat were found on the majority of silks. Crisp and blurry outlines of shapes were seen with approximately equal fre­quency. Two-dimensional handling of motifs was the general trend. In length, most of the repeats were between 3.4 and 11.7 centimeters. In width, the usual dimensions were between 3.5 and 13.6 centimeters. Reds, Yellows and Yellow Greens were the hues most often present in the silks,
although a few examples of other hues were identified. Weaves included damasks, brocades, brochés and small figures. Yarns were of silk, with the exception of the metallic ones found in the single sample of brocaded silk.

Recommendations for Further Study

Further investigation related to the present study might take a minimum of three different directions. Improvements might be made in the descriptive chart developed for the present investigation. The search for Dutch silks, particularly in the museums of the United States, might be continued. Investigation of figured pile fabrics might be expanded by other researchers. Each of the three suggestions are expatiated upon in the following sections.

Methods of Describing Historic Textiles

Several improvements on and adaptations of the chart for Descriptive Classification of Figured Silks might be incorporated into future investigations. Each descriptive category in the chart could be refined by increasing the precision of the descriptive terms over those used in the present study. Among the suggestions for such refinements made in Chapter III of the present study were the following: distinguishing the major physical unit from the major visual unit in the design; adding the term "Dropped Point Repeat" to the categories of weaving repeat; and incorporating the reasons for describing motival outlines as
crisp or blurry. Research projects involving centuries other than the seventeenth and cultures other than European might necessitate additional changes in the chart. Visual units of Japanese or American Indian textiles might require very different descriptors from those used for units of European textiles. Persian seventeenth century textiles incorporated human figures, whereas European textiles of the same period were essentially lacking in human motifs.

Further Research on Dutch Silks

Rothstein\(^1\) suggested the importance of a thorough examination of records pertaining to early Dutch colonies in the United States. Some extant seventeenth and eighteenth century silks in United States collections might have been manufactured in The United Provinces and shipped to Dutch settlers in the New World. The Albany Institute of History and Art, The New York Historical Society and The Museum of the City of New York might contain instructive documents. Limitations of money and time prevented the expansion of the present research into such areas. It was deemed essential to examine European museum holdings in early silks before evaluating United States collections and records.

\(^1\)Rothstein, "Dutch Silks...," 158.
Philadelphia Museum of Art\textsuperscript{2} owned Dutch silks of the eighteenth century and The Art Institute of Chicago housed two specimens of seventeenth century "Netherlandish" silks. Both institutions would be worth visiting in the continued search for information about the products of Dutch weaving mills. The Cleveland Museum of Art contained a group of seventeenth century brocatelles of undetermined origin, which might also be studied and compared to known Dutch silks of similar date.

When sufficient information about Dutch silks has come to light, a study of the sources of design motifs might be made. Worldwide trading connections exposed Dutch merchants to many styles of textiles and other art objects. Perhaps inspiration for Dutch silks could be traced to Persian velvets, Chinese export porcelain or art objects from India.

**Figured Pile Fabrics**

Additional investigation of figured pile fabrics might be undertaken. Collections both in the United States and Europe seemed to contain numerous pieces of figured velvet and velours. Characteristics of national styles might be identified if a sufficiently large number of

\textsuperscript{2}Philadelphia Museum of Art was closed during 1975 because of extensive renovations in preparation for the bicentennial year celebration.
examples were found, with or without known place of manufacture. The development and transmission of technical expertise in the execution of figured pile fabrics might also be revealed by such a study.
APPENDIX A

European Museums with Whose Curators the Researcher Communicated

Aartsbisschoppelijk Museum, Utrecht, Nederland
Bisschoppelijk Museum voor Religieuze Kunst, Haarlem, Nederland
Centraal Museum der Gemeente, Utrecht, Nederland
Dienst van het Koninklijk Huis, s'-Gravenhage, Nederland
Frans Halsmuseum, Haarlem, Nederland
Gemeentebestuur van Leeuwarden, Leeuwarden, Nederland
Gemeente-Archief van Haarlem, Haarlem, Nederland
Gemeentelijke Archiefdienst, Amsterdam, Nederland
Haags Gemeentemuseum, s'-Gravenhage, Nederland
Het Fries Museum, Leeuwarden, Nederland
Kamer van Koophandel en Fabrieken voor Haarlem en Omstreken, Haarlem, Nederland
Oud-Katholiek Museum, Utrecht, Nederland
Rijksmuseum Amsterdam, Amsterdam, Nederland
Rijksmuseum "Zuiderzeemuseum," Enkhuizen, Nederland
Stedelijk Museum "De Lakenhal," Leiden, Nederland
Twents-Gelders Textielmuseum, Enschedé, Nederland
Victoria and Albert Museum, London, England
APPENDIX B

United States Museums with Whose Curators
the Researcher Corresponded

Buffalo and Erie County Historical Society, Buffalo, New York
Cincinnati Art Museum, Cincinnati, Ohio
Corcoran Gallery of Art, Washington, D.C.
Costume and Textile Study Center, University of Washington, Seattle, Washington
Daughters of the American Revolution Museum, Washington, D.C.
Dearborn Historical Museum, Dearborn, Michigan
Historical Society of the Tarrytowns, Inc., Tarrytown, New York
Isabella Stewart Gardner Museum, Boston, Massachusetts
Knickerbocker Historical Society, Melrose, New York
Museum of Fine Arts, Boston, Massachusetts
Museum of the City of New York, New York, New York
New York Historical Association, Albany, New York
Peabody Museum, Salem, Massachusetts
Philadelphia Museum of Art, Philadelphia, Pennsylvania
Rensselaer County Historical Society, Troy, New York
Rochester Museum and Science Center, Rochester, New York
Saratoga-Capital District State Park and Recreation Center, Saratoga Springs, New York
Seattle Art Museum, Seattle, Washington
Shelburne Museum, Shelburne, Vermont

125
Society for the Preservation of Long Island Antiquities, Setauket, Long Island, New York
Staten Island Historical Society, Staten Island, New York
Syracuse University, University Art Collection, Syracuse, New York
The Art Institute of Chicago, Chicago, Illinois
The Baltimore Museum of Art, Baltimore, Maryland
The Brooklyn Museum, Brooklyn, New York
The Cleveland Museum of Art, Cleveland, Ohio
The Greater Amsterdam School District, Amsterdam, New York
The Metropolitan Museum of Art, New York, New York
The New York Historical Society, New York, New York
The Textile Museum, Washington, D.C.
Valentine Museum, Richmond, Virginia
Wadsworth Atheneum, Hartford, Connecticut
APPENDIX C

Example of the Letter Sent to Curators
in the United States

Division of Textiles and Clothing
The Ohio State University
1787 Neil Avenue
Columbus, Ohio 43210
(Date inserted)

(Name of Curator of Textiles inserted)
(Museum name and address inserted)

Dear (Name of Curator of Textiles inserted):

As my doctoral research project, I have chosen a study of silks woven in the Northern Netherlands during the seventeenth century. My principal work will involve silk fabrics in the collections of the Rijksmuseum and the Nederlands Kostuummuseum. I should like to include in my research verified or suspected Northern Netherlandish seventeenth century silks housed in collections in the United States.

Does (Name of museum inserted) own any such silk fabric? To what extent is the provenance established? Would I be permitted to see the fabric if I were to visit the museum?

I shall be doing research in the Netherlands from 10 March through 8 April. I should like to gather information in the United States from mid-April to mid-May. My reading languages for the dissertation are French and Dutch.

Sincere thanks for any assistance you may offer.

Yours truly,

(Ms.) Jane A. Farrell,
Graduate Student
### Descriptive Classification of Figured Silks

<table>
<thead>
<tr>
<th>Vertical Band</th>
<th>Horizontal Band</th>
<th>Roundel</th>
<th>Oval</th>
<th>Rectangle</th>
<th>Lozenge</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight</td>
<td>Straight</td>
<td>Wavy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavy</td>
<td>Wavy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Basic Grouping of Motifs**

**Type of Repeat**

<table>
<thead>
<tr>
<th>Point Repeat</th>
<th>Comber Repeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flower (Species)</td>
<td>Twigs, Leaves</td>
</tr>
</tbody>
</table>

**Identification of Motifs**

<table>
<thead>
<tr>
<th>Type</th>
<th>Naturalistic</th>
<th>Stylized from Nature</th>
<th>Geometric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation of Motifs</td>
<td>Connected Units</td>
<td>Discrete Units</td>
<td></td>
</tr>
</tbody>
</table>

**Motifs Are...**

<table>
<thead>
<tr>
<th>Crisp Outline</th>
<th>Fuzzy, Blurry Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motifs Have a</td>
<td>Three-Dimensional</td>
</tr>
<tr>
<td>Motifs on Background</td>
<td></td>
</tr>
<tr>
<td>Appear...</td>
<td></td>
</tr>
</tbody>
</table>

"Repeat:"

<table>
<thead>
<tr>
<th>Dimensions of Motif or Motival Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length _______ centimeters</td>
</tr>
<tr>
<td>Width _______ centimeters</td>
</tr>
</tbody>
</table>
### Descriptive Classification of Figured Silks

**Page 2**

<table>
<thead>
<tr>
<th>Background Color(s)</th>
<th>Color(s) in Figure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background Color(s)</strong></td>
<td></td>
</tr>
<tr>
<td>Colors in Textile Sample</td>
<td>Color(s) in Figure(s)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Twill</strong></td>
<td></td>
</tr>
<tr>
<td>Right Hand</td>
<td></td>
</tr>
<tr>
<td>Left Hand</td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td></td>
</tr>
<tr>
<td>Taffeta</td>
<td></td>
</tr>
<tr>
<td>Satin</td>
<td></td>
</tr>
<tr>
<td>File</td>
<td></td>
</tr>
<tr>
<td>Cut</td>
<td></td>
</tr>
<tr>
<td>Uncut</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Width of Textile Sample</td>
<td></td>
</tr>
<tr>
<td>Between Selvages</td>
<td></td>
</tr>
<tr>
<td>Overall Appearance</td>
<td></td>
</tr>
<tr>
<td>of Textile Sample</td>
<td></td>
</tr>
<tr>
<td>Museum Number of</td>
<td></td>
</tr>
<tr>
<td>Textile Sample</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E

Museum Accession Numbers of Silks Studied

The Metropolitan Museum of Art
New York City

<table>
<thead>
<tr>
<th>Accession Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.50.1074</td>
<td>Embossed velvet. 16th-17th centuries. Dutch.</td>
</tr>
<tr>
<td>33.95.31</td>
<td>Figured velvet. No provenance obtained.</td>
</tr>
<tr>
<td>33.95.35A</td>
<td>Figured velvet. No provenance obtained.</td>
</tr>
<tr>
<td>36.90.447</td>
<td>Figured velvet. 16th-17th centuries. Italian.</td>
</tr>
<tr>
<td>36.90.448</td>
<td>Figured velvet. 16th-17th centuries. Italian.</td>
</tr>
<tr>
<td>36.90.1432</td>
<td>Figured velvet. 17th century. Italian.</td>
</tr>
<tr>
<td>1970.317.1</td>
<td>Silk panel. Late 17th-early 18th centuries. Dutch (?)</td>
</tr>
</tbody>
</table>

Victoria and Albert Museum
London

<table>
<thead>
<tr>
<th>Accession Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 33 - 1903</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>162-1926</td>
<td>Figured velvet. 17th century. Italian.</td>
</tr>
<tr>
<td>564 E 1884</td>
<td>Figured velvet. Late 16th-17th centuries. Italian.</td>
</tr>
<tr>
<td>A 581-1884</td>
<td>Figured velvet. No provenance obtained.</td>
</tr>
<tr>
<td>934-1899</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>A 956-1899</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>973-1899</td>
<td>Figured velvet. No provenance obtained.</td>
</tr>
<tr>
<td>979-1899</td>
<td>Figured velvet. 17th century. Italian.</td>
</tr>
<tr>
<td>992-1899</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1004-1899</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1031-1900</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1039-1900</td>
<td>Damask. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1066-1899</td>
<td>Damask. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1091-1899</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1117-77</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td>1118-77</td>
<td>Figured velvet. 16th century. Italian.</td>
</tr>
<tr>
<td>1131-1877</td>
<td>Figured velvet. 16th century. Italian.</td>
</tr>
<tr>
<td>E 1132-1888</td>
<td>Figured velvet. 16th century. Italian.</td>
</tr>
<tr>
<td>1134-77</td>
<td>Figured velvet. 16th century. Italian.</td>
</tr>
<tr>
<td>1744-1888</td>
<td>Figured velvet. Late 16th century. Italian.</td>
</tr>
<tr>
<td></td>
<td>A duplicate of 951 from Aartsbisschoppelijk Museum.</td>
</tr>
</tbody>
</table>
### Aartsbisschoppelijk Museum
#### Utrecht

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Date/Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>891</td>
<td>Brocade. 17th century. French.</td>
<td></td>
</tr>
<tr>
<td>898</td>
<td>Damask. 17th century. Italian or Spanish.</td>
<td></td>
</tr>
<tr>
<td>921</td>
<td>Brocade. Early 17th century or Louis XIV. French.</td>
<td></td>
</tr>
<tr>
<td>944</td>
<td>Figured velvet. 17th-18th centuries. No source named.</td>
<td></td>
</tr>
<tr>
<td>981 a-f</td>
<td>Figured velvets (6). 16th-17th centuries. No source named.</td>
<td></td>
</tr>
<tr>
<td>No Number.</td>
<td>S-striped silk. No information available.</td>
<td></td>
</tr>
</tbody>
</table>

### Bisschoppelijk Museum
#### Haarlem

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Date/Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Figured velvet. 1650-1700. Utrecht.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brocade. 1600-1650. No source named.</td>
<td></td>
</tr>
</tbody>
</table>

### Gemeente-Archief
#### Haarlem

<table>
<thead>
<tr>
<th>Sample</th>
<th>Description</th>
<th>Date/Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>Damask.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 2</td>
<td>Damask.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 3</td>
<td>Brocade.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 4</td>
<td>Brocade.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 5</td>
<td>Brocade.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 6</td>
<td>Small figured silk.</td>
<td>1678. Haarlem.</td>
</tr>
<tr>
<td>Sample 7</td>
<td>Small figured silk.</td>
<td>1678. Haarlem.</td>
</tr>
</tbody>
</table>
APPENDIX F

Selected Munsell Colors Found
In the Silks Studied

<table>
<thead>
<tr>
<th>Blacks</th>
<th>Yellow Reds</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 Black</td>
<td>5.0 Yellow Red 7/2</td>
</tr>
<tr>
<td>1.0 Black(^1)</td>
<td>5.0 Yellow Red 5/8</td>
</tr>
<tr>
<td></td>
<td>5.0 Yellow Red 5/6</td>
</tr>
<tr>
<td></td>
<td>5.0 Yellow Red 5/2</td>
</tr>
<tr>
<td></td>
<td>5.0 Yellow Red 2/2</td>
</tr>
<tr>
<td>Reds</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 8/2</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 7/8</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 5/10</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 4/12</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 4/8</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 4/4</td>
<td></td>
</tr>
<tr>
<td>5.0 Red 4/2</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Munsell Number 2 Black of the 1975 edition was used as the equivalent of Number 1 Black of the 1954 edition, which had a slightly glossy finish.
<table>
<thead>
<tr>
<th>Greens</th>
<th>Purples</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 Green 5/4</td>
<td>5.0 Purple 8/2</td>
</tr>
<tr>
<td>Blue Greens</td>
<td>5.0 Purple 3/2</td>
</tr>
<tr>
<td>5.0 Blue Green 6/2</td>
<td>5.0 Purple 2/4</td>
</tr>
<tr>
<td>Blues</td>
<td>5.0 Purple 2/2</td>
</tr>
<tr>
<td>5.0 Blue 8/2</td>
<td></td>
</tr>
<tr>
<td>5.0 Blue 6/2</td>
<td></td>
</tr>
<tr>
<td>Purple Blues</td>
<td>Red Purples</td>
</tr>
<tr>
<td>5.0 Purple Blue 8/2</td>
<td>5.0 Red Purple 8/2</td>
</tr>
<tr>
<td>5.0 Purple Blue 3/4</td>
<td>5.0 Red Purple 4/2</td>
</tr>
<tr>
<td></td>
<td>5.0 Red Purple 3/2</td>
</tr>
<tr>
<td></td>
<td>5.0 Red Purple 2/4</td>
</tr>
</tbody>
</table>
APPENDIX G

Glossary of Terms

Armozijnen (Boxer, 21) Thin, satinlike material used for linings

Broché (Wingate, 82) A fabric decorated with special yarns which are introduced with the warp or weft but are not an intrinsic part of the structure of the fabric

Cisélé (Linton, 103) In velvet, this is a motif formed by cut and uncut pile when the cut pile is raised above the uncut portions of the design by the weaving method.

Cisélé Velvet (Linton, 103) "Velvet in which the loops of yarn or thread formed on the surface by the pile warp... are both cut and uncut so as to achieve the motif"

Comber Repeat (Thornton, 29, 85) A repeat in weaving which has asymmetrical motifs, reversed from left to right in alternate rows

Dropped Point Repeat (Watson, 281-283) A weaving repeat in which the unit figure may be internally symmetrical or internally asymmetrical... The unit figure is one-half of the complete design, both vertically and horizontally. (Figures in the dropped point repeat face in one direction only; figures in comber repeat face left and right in alternate rows.)

Float (Webster, 872) "A portion of filling thread that passes over two or more warp threads or of a warp that passes over two or more filling threads before interlacing"

Florin (Webster, 874) "Any of certain gold coins of European countries patterned after the Florentine florin" (Includes the Dutch guilder)

Gros de Tours (Wingate, 267) "A plain weave, cross-ribbed French fabric made of silk or other fiber... The fabric resembles taffeta, but the ribs are formed by two or more picks (fillings) instead of one, producing a fine ribbed surface. The warp is two or three ply yarn."
Peau de Soie (Hollen and Saddler, 231) A very smooth, semi-dull satin construction... Peau de soie has floats on both surfaces of the fabric and is quite heavy.

Pellenpatroon (Dijkmeijer, 283) Small figure weave which uses plain, twill and satin weaves in different directions or configurations

Point Repeat (Thornton, 29, 85) Series of compartments, symmetrical about the vertical axis

Repeat (Linton, 469) An entire, completed pattern for design and texture...Repeats vary greatly in size.

Repeat in Pattern (Linton, 469) "The distance from one point in a pattern to similar point in the repeat, measuring lengthwise"
SELECTED BIBLIOGRAPHY

Books


**Articles and Periodicals**


---
