

Household Textiles (1922)

Charlotte Mitchell Gibbs

HOUSEHOLD TEXTILES

By
CHARLOTTE M. GIBBS, A.M.

REVISED EDITION



WHITCOMB & BARROWS
BOSTON 1922

COPYRIGHT 1912 AND 1922
By WHITCOMB & BARROWS

THOMAS TODD CO., PRINTERS
14 Beacon Street, Boston, Massachusetts
Made in U. S. A.

Household Textiles

Charlotte Mitchell Gibbs

In the interest of creating a more extensive selection of rare historical book reprints, we have chosen to reproduce this title even though it may possibly have occasional imperfections such as missing and blurred pages, missing text, poor pictures, markings, dark backgrounds and other reproduction issues beyond our control. Because this work is culturally important, we have made it available as a part of our commitment to protecting, preserving and promoting the world's literature. Thank you for your understanding.

PREFACE

Books on the subject of textiles have usually been written from the standpoint of the manufacturer or of the textile chemist. It has been the purpose of the writer to bring together in this book the general facts of most interest to the consumer. Those points have been chosen which will give a broader understanding of the textile market and aid in the selection and use of textile fabrics. Technical terms and manufacturing processes have been given only in so far as they give a general understanding of the conversion of fibers into cloth and throw light on the possibilities of adulteration.

Information has been gathered from many sources, from books, government reports, visits to factories, shops, and museums. Suggestions and references for a more extended study have been given.

The study of textiles is related to many other subjects, which can merely be suggested in a work of this size. The writer has endeavored to give that information which the lay student may understand and which may lead to a larger field of investigation.

A chapter on the Arts and Crafts movement has been included to give a broader appreciation of the field of textile art.

It is hoped that the book may serve as a text in high school courses in textiles and, with supplementary reading, as an outline for college work.

The author wishes to express her appreciation to the Boston Museum of Fine Arts for the photographs of old textiles; to the curator of Pilgrim Hall in Plymouth, Massachusetts, for photographs of implements used for spinning and weaving; to the Lowell Textile School for the picture of the Jacquard loom and the worsted card; and also to Mr. Fenwick Umpleby, of the Bradford Durfee Textile School, Fall River, for reading certain chapters in proof.

CHARLOTTE M. GIBBS.

July, 1912.

Urbana, Ill.

PREFACE TO THE SECOND EDITION

IN revising this book the author has attempted to make those corrections necessitated by the changes which have come about in the textile industry since the book was prepared, in the last eight or nine years. The most notable development in this time has been that of the artificial silk industry. Most of the changes resulting from the war were of a temporary nature, but a direct outcome of the war, which is undoubtedly permanent, was the development of the dye industry in this country.

Some new material on buying and the testing of fabrics has been added, and the bibliography has been brought up to date.

C. M. G.

October, 1921.

ILLUSTRATIONS

FIGURE	PAGE
FRONTISPIECE, FLEMISH TAPESTRY	
1. EARLY EGYPTIAN LINEN	3
2. PERUVIAN FABRIC	5
3. NAVAJO BLANKET, LOOM, AND INDIAN BASKETS,	8
4. BASKETS, FANS, AND GOURDS, PACIFIC ISLANDS,	9
5. PRIMITIVE FABRICS FROM THE PACIFIC ISLANDS	10
6. BOBBIN USED IN MAKING GOBELIN TAPESTRY	16
7. (SEE FRONTISPIECE)	
8. HOMESPUNS FROM BEREA COLLEGE	19
9. FLAX WHEEL	23
10. WOOL WHEEL, REEL	25
11. YARN WINDER	26
12. HAND LOOM OF COLONIAL DAYS	30
13. JACQUARD LOOM	35
14. WOOL AND COTTON FIBERS	41
15. LINEN FIBERS	41
16. RAMIE FIBERS	43
17. JUTE FIBERS	43
18. COTTON FIBERS	53
19. MERCERIZED COTTON FIBERS	62
20. GRADES OF WOOL	68
21. WORSTED CARDING	78
22. PROCESSES IN WOOLEN MANUFACTURE	79
23. PROCESSES IN WORSTED MANUFACTURE	81
24. RAW SILK FIBER, GUM ADHERING	94
25. SILK FIBER, GUM BOILED OFF	94
26. WILD SILK FIBER	95

FIGURE	PAGE
27. MULBERRY LEAF AND SILKWORM EGGS	97
28. SILK COCOONS AND SKEINS	103
29. ARTIFICIAL SILK	107
30. FLAX, RETTED, SCUTCHED, ETC.	114
31. YARN WINDER, FLAX HATCHEL, QUILLING WHEEL,	117
32. BLOCK FOR PRINTING	138
33. COTTON PRINTS	141
33a. PLAIN, TWILL, SATEEN, AND GAUZE WEAVES	152
34. IMITATION DOTTED SWISS	161
35. SHODDY	163
36. WORSTED SAMPLE ANALYZED	165
37. MOHAIR	166
38. SAMPLE OF SILK AND ASH FROM SAME	169
39. JAPANESE SILK	186
40. PERSIAN BROCADE	187
41. SCALE OF VALUES AND COLORS	188
42. COLOR WHEEL	190
43. CONSUMERS' LEAGUE LABEL	214
44. SWEDISH AND ENGLISH LINENS	229
45. COTTON FIBER IN SCHWEITZER'S REAGENT	238

CONTENTS

CHAPTER	PAGE
I. EARLY DEVELOPMENT OF THE TEXTILE ARTS	I
II. SPINNING AND WEAVING	21
III. CLASSIFICATION OF FIBERS	38
IV. COTTON	47
V. WOOL	65
VI. SILK	90
VII. LINEN	109
VIII. BLEACHING AND DYEING	122
IX. FABRICS AND THEIR ADULTERATIONS	143
X. HYGIENE OF CLOTHING MATERIALS	175
XI. DESIGN AND COLOR IN TEXTILE FABRICS	184
XII. LABOR CONDITIONS AND EFFORTS TO IMPROVE THEM	202
XIII. THE ARTS AND CRAFTS MOVEMENT	220
APPENDIX A. LABORATORY TESTS FOR TEXTILE FIBERS	236
APPENDIX B. BIBLIOGRAPHY	241
INDEX	247

CHAPTER I

EARLY DEVELOPMENT OF THE TEXTILE ARTS

THE strict definition of textile is "a fabric made by weaving" or "a material capable of being woven." For convenience, in the study of cloth, we include under the word "textile" not only the fibers capable of being woven, and woven cloth, but also other materials closely resembling woven cloth, such as felt, bark cloth, knitted and embroidered fabrics.

The modern textile industry is so enormous and its processes so complicated that one cannot understand its mechanism without long and careful study, and observation of the actual working machinery. The foundation principles, however, are the same as those of the savage woman working in the forest with the crudest implements, and the results differ only in degree of refinement. A slow but steady evolution may be traced in this, one of the earliest industries known to mankind. A much more intelligent appreciation of the modern processes may be gained through a study of the ancient industry and of the gradual development of implements and processes up to modern times.

Likewise, there is a marked evolution in the art of color and design displayed in woven fabrics, and the highly developed sense of color and design is better appreciated when the primitive love of crude color has

been studied. Man in the forests of Asia expressed himself in his arts and strove to meet his needs through his industries, just as man today expresses his love for color and his appreciation of beauty through beautiful fabrics, and manufactures cloth to protect his body and to make his home more comfortable. Among primitive races woman is the inventor, the pioneer in industries. Man has replaced her in modern manufacture, but she discovered the first principles. Modern science uses the materials which the savage woman found to be best. She learned from nature what materials and what forms to use. The debt we owe to her cannot be overestimated, for the hundreds of years of patient toil and invention by these founders of our race laid a firm foundation for modern progress.

Prehistoric Textiles. In attempting to learn something of the beginnings of weaving and spinning, we are carried back to the earliest written records, and here we find descriptions of an industry already well developed. For the earliest beginnings we must search farther into the dim past, where we have only dusty relics to instruct us; and even then we find that the birth of our industry is lost in past ages. As man first began to emerge from a state more animal than human, and felt a need for something more than the food and shelter provided by nature, he doubtless began to devise implements, clothing, and habitations of some sort; and while the skins of animals and the bark and leaves of trees first supplied his needs, slowly he developed the ability to make use of the reeds and grasses about him, and then the wool, flax, and other fibers that nature provided, and to combine these twigs

and fibers into baskets, mats, and cloth. Whether the earliest need was for shelter, for decoration, or to express modesty, we know that decoration soon followed the early textile industry, and through the ages this art and industry have developed side by side. Though information be scattered and evidences slight, they are sufficient to throw light thousands of years into the past.

It has been the custom among primitive peoples to bury with their dead various tools, weapons, and clothing which they considered man might need in whatever journey he was to take in the life to follow. Thousands of years later the graves of these prehistoric men have been opened, and the tools which they buried have come to light, giving much information concerning the occupations of the times. Among these tools are spindles, shuttles, crude looms, combs, and other implements used in spinning and weaving. In some localities, because of peculiar conditions of climate or soil, not only have stone and wooden implements been preserved, but pottery, basketry, and even textile fabrics have been found.

In the tombs of ancient Egypt, where bodies were wrapped in cloth and then embalmed, we have examples

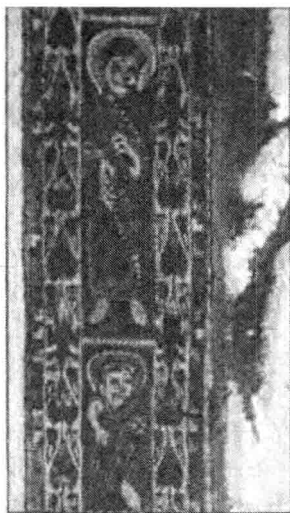


FIG. 1.— EGYPTIAN LINEN
Sixth to Seventh Century A. D.

of textile fabrics four thousand years old. These are mostly linen, rather coarse in weave, but decorated with color in stripes and with crude representations of living creatures. The Egyptians worshiped plants, animals, and material things, and they portrayed these in their designs. Some of the fabrics are embroidered, but more commonly the designs are woven in. Figure 1 shows the character of Egyptian design when more fully developed in the early Christian era.

On the coast of Peru, where the dry saline sands are excellent preservatives, there have recently been opened graves containing relics of great interest. The Incas, a powerful race of Peruvians, had carried the textile art to a high degree of perfection in the thirteenth and fourteenth centuries, and they buried with their dead many fabrics of linen, cotton, and wool, embroidered, intricate in design, and ornamented with precious metals. A valuable collection of Peruvian textiles is in the Natural History Museum in New York, the most perfect piece being a poncho of wool, very silky in its fineness. Its surface is divided into squares, each filled with simple, geometric designs of animal and plant form. This poncho was buried in a stone box, and has come out apparently as perfect in color and texture as it went in. Nets showing different weaves and meshes, elaborate head dresses, tassels, and ornaments of various sorts, as well as patchwork in gorgeous colors, are among the collections in this museum, and also in the Boston Museum of Fine Arts.

The looms used by the Peruvians were very simple, as were those used by the Egyptians. Some of the former have been found in the graves with partly finished cloth

in them, while the latter are pictured on the walls of temple or tomb. The colors and the designs are quite similar in Egyptian and Peruvian relics, although one industry existed some hundreds of years B.C. and the other about 1300 A.D.

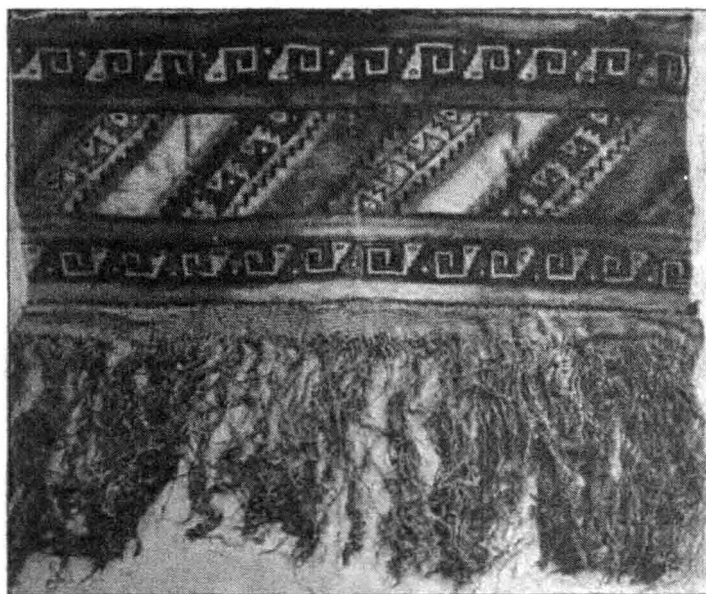


FIG. 2.—PERUVIAN FABRIC

Figure 2 shows a remnant of a Peruvian fabric with characteristic design and fringe.

In parts of Switzerland, during the Bronze Age, men built their homes on piles driven into the bottoms of lakes. When these houses decayed and fell into the lake, or were partly destroyed by fire, tools and fabrics

fell also, and gradually covered by a layer of peat have been preserved there for thousands of years. Sometimes several layers have been found, separated by layers of mud, illustrating different periods of history. The materials found in these lakes are very fragmentary, but serve to show that the lake dwellers knew how to spin and weave and had crude implements to work with.

Associated Arts. Aside from these and other remains of early textile art itself, we are able to learn much from the associated arts of the same periods. We find decoration on potteries, made by the imprint of the woven cloth or basketry used for holding the vessel in shape, sometimes probably molded there merely for decoration. Sometimes the decoration shows designs clearly developed for use in weaving, but not necessarily produced in this way. The Mound Builders of this country furnish us with examples of this sort. Basketry is an art practiced by many primitive peoples and is closely related to cloth weaving, since the decorations and some of the weaves are the same in both. Architecture, too, shows the influence of textile art, some of the designs used in decoration of stone showing clearly their textile origin. Evidently the two arts developed side by side for ages, the woven fabrics serving to embellish the architecture, or making a real part of the structure, when used for partitions and walls. Pictorial decoration on architecture and on pottery, stones, and tools frequently portrays the arts and industries of the times. Weaving, spinning, dyeing, and preparation of fibers are all shown in a manner crude, but distinct nevertheless. We find such decoration abundant in Egypt, Assyria, Greece, and other countries.

All of these sources furnish us with unquestionable evidences of an art and an industry existing long before written records were left. New evidences of this past life are brought to light from time to time in many parts of the globe, adding their proof that spinning and weaving were commonly practiced among our prehistoric ancestors.

Primitive Peoples of Today. Had we no history to read and no relics to study, if we look about us today we may see many examples of the early stages in development of the textile art. Tribes of people still exist whose civilization has not yet advanced to the age of manufacture by complicated processes or by machinery. The baskets, mats, and blankets woven by aboriginal peoples are recognized as being among the most beautiful produced. The workmanship of primitive peoples is marvelous when handling reeds or rushes. Their colors are natural colors and their forms are copied directly from nature. The gourd, the nest, the spider, the reptile, and other natural forms, furnish shapes and designs. An art which thus keeps close to nature, knowing no other art to copy, is sure to be beautiful. The primitive woman is thoroughly acquainted with her materials and understands their limitations. Add to this the beauty of usefulness and the result is excellent. The food and water baskets of the Pima Indian are graceful in line and shape, and the designs, though simple and often crude, are successful, while for durability the baskets are unsurpassed. (See Figure 3.)

The Indian loom, while one of the simplest in construction, produces, under the skillful touch of the Indian