DEVELOPMENT OF A TEXTILE CURRICULUM MODEL FOR NIGERIAN HIGHER EDUCATION INSTITUTIONS

BY

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1983

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To my beloved mother

Rebecca Aluanenge Kparevzua

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Chapter I

INTRODUCTION

Nigeria as a former British colony had her educational policies controlled by the British until October, 1960, when she was finally granted independence. During the 19th century, the goals and values of education in the British-oriented Nigerian schools focused on intellectual and moral development. The school structure therefore was geared towards cognitive development, tailored mainly by moral principles. Thus, the system of education was structured to reflect the mode of education of modern mission schools, with its priorities in religious instruction, reading and writing.

By the 20th century, emphasis in education had shifted to social and economic goals. Eventually, economic functions received more emphasis under the British system of education. Since Nigeria obtained independence in 1960, efforts have been made to redefine educational goals, and values in Nigerian schools and universities as social interests and national emphasis shift from one aspect to another.[1]

The 1960s and the 1970s produced a wide variety of suggestions for developing teaching programs and methods at all education levels.

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[1]B. F. Adeniyi, "The Sociological Concept of School as an Organization," West African Journal of Education, 19 (1974): 423-426.

Tremendous efforts have been made by individuals, organizations, societies, as well as by the government, to outline educational policies, values and goals which are deemed suitable for the society. For example, in the early 1970s, the Association of Teachers of Education in Africa, ATEA, embarked on a curriculum development project, to design new approaches and materials for teaching foundations. At the same time, the Western Council project was interested in modernizing the society. The council initially produced readings in two volumes. The first volume was focused on The Drive to Achieve National Identity. The second volume was The Drive to Achieve Modernization. These themes were initially intended for teacher education, and eventually formed the foundation of education for many African countries, including Nigeria.[2,3]

In the late 1960s, after the Nigerian civil war, there was a greater desire on the part of Nigerians to review the goals and contents of education in Nigeria. This need was also emphasized by Cookey as he stated:

> There is no doubt that the present pattern of our sixth form is a blind copy of the British system. It is too narrow and inflexible in spite of recent attempt to widen its basis.[4]

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[2]O. Majasan, "Education and Tradition," Nigerian Opinion, 2 (1965): 9-11.

[3]A. B. Fafunwa, "African Education and Social Dynamics," West African Journal of Education, 2 (1963): 63-70.

[4]S. J. Cookey, "The Need to Review the Purpose of Education in Present Day Nigeria," West African Journal of Education, 14 (1970): 12.

In addition, it was noted by various scholars that the problem was not just limited to primary, secondary, and high schools. Cookey reported that the Nigerian universities, too, were making slow changes from the colonial system of education. He stated:

> Some of our universities are still apeing the university tradition of 18th century Europe. Some have constituted themselves an ivory tower and some lecturers talk glibly about university atonomy. It is only recently that some universities have started climbing down, but the rate of descent is extremely slow and they have not yet realized their role in assisting the state to build up its manpower requirements.[5]

The turning point in the redefinition of educational structure in Nigeria resulted from a meeting of the Nigerian curriculum conference which took place in Lagos, in 1969. The conference reviewed the existing national goals for education at all levels--primary, secondary, high school, and university. New educational goals were also identified for all the subjects taught in Nigerian schools and universities. Nigerians from various fields including traders, farmers, parents, trade union, civil servants, and the like were invited to contribute in designing the types of curricula that would meet the needs of students, schools, and society at large.[6,7,8]

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[5]Cookey, p. 13.

[6]T. A. Balogun, "The National Curriculum Conference in Nigeria," West African Journal of Education, 14 (1970): 5-8.

[7]A. Aderalegbe, Nigerian National Curriculum Conference: A Philosophy for Nigerian Education, Lagos: Proceedings of the Nigerian Educational Research Council. (London: Heinemann Educational, 1972).

[8]Cookey, p. 11.

Cookey's address to the National Curriculum Conference emphasized the need to link the Nigerian educational system to the values and needs of the society.

At the conference, various decisions were made with regards to which academic areas a developing nation like Nigeria could most fully benefit. In addition, general educational objectives and goals were outlined for all the major subject areas in education, including art. Members of the conference evidently realized how important art could be in reviving certain aspects of Nigerian culture that were beginning to disappear.

STATEMENT OF THE PROBLEM

Since the 1970s, most subject areas in education presumably have been developed in a manner congruent with the national goals. One of the areas yet to be developed is textiles. The intent of the present study, therefore, is to develop a university level teaching program in textiles (designing, printing, dyeing, and weaving) that will be consistent with Nigerian needs and values.

Although the manufacturing of textiles has a long tradition in Nigeria, it is one of the areas that has suffered over the years as a result of the British system of education. At present, traditional textile making is in danger of becoming extinct since it is not being taught in the classrooms but being handed down from person to person within family, and these tribal units have lost some of their former cohesion and influence.

The need to design and develop training programs in textiles has recently begun to be emphasized as the result of (1) substantial increases in the Nigerian population, (2) due to the demand for textiles, and (3) because of the indigenization policy in effect since the late 1970s. The ban on importation of foreign goods created and accelerated the need for a larger quantity of textile fabrics produced in Nigeria. Due to the insufficient number of textile industries presently in existence, and because of the dissatisfaction expressed by Nigerians over the quality of available products, the textile area has enjoyed strong governmental support during recent years.

Since 1977, attempts have been made to develop many institutions of higher learning for training designers and technologists to accelerate the growth of the developing national textile industries and the quality of their products. The creation of a new department of Industrial Design, at Ahmadu Bello University in 1979 is a typical example of governmental support. The government has also established many colleges of Technology and created art departments in various universities throughout the country.

RATIONALE FOR THE PRESENT STUDY

The problem of the present study, therefore is to design a textile curriculum model that is consistent with the values, needs and goals of Nigerians.

The creation of attractive, durable textiles is one of the

long and valuable traditions of the Nigerian people. The classical methods of designing and producing costumes by the various ethnic groups are still very popular and highly respected in the country. Nevertheless, since the beginning of the 20th century, the traditional textiles have been losing their erstwhile superiority. At least in part this is because Nigerian schools and higher institutions, have adopted foreign methods and techniques of teaching skills and knowledge related to producing textiles, a policy which has tended to lead to the abandonment of the traditional fabrics and materials which are still readily available, and which also can be utilized at a much lower cost.

Traditional costumes are therefore becoming increasingly scarce and expensive. At the same time, the demand for them has increased due to the desire on the part of Nigerians to dress traditionally. This was pointed out by Kent in her report that:

> The rising tide of nationalism with its emphasis on the values of African traditions has increased the sale of certain kinds of cloth.[9]

It becomes important therefore for schools and institutions to incorporate and to preserve the nature and the quality of traditional textiles by including certain time-tested ideas in the textile curriculum. In addition, changes ought to be made from the extreme use of borrowed foreign ideas and textile methods to a focus

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[9]K. P. Kent, West African Cloth (Denver, Colorado: Denver Museum of Natural History, City Park, 1971), p. 3.

mainly on borrowing the major aspects of foreign textiles that might enhance Nigerian textiles.

Since the 1960s, Nigeria has been attempting to link her educational system to the values and needs of her people. This creates an obvious opportunity for the improvement of curriculum contents, format, and strategies in crafts and particularly textiles, in order to meet the needs of Nigerians.

Most of the teaching programs both in textiles and in art generally, have remained the same over the years despite national attempts to review and to introduce changes in education. Since there is a great need to incorporate the traditional with the contemporary modes of textiles in classroom instruction, the teaching programs in textiles in Nigerian universities need to be reviewed, and restructured to provide for these aspects of the curriculum that are missing.

PURPOSE OF THE STUDY

This study sought to increase the present fund of information about textile processes, methods and techniques and some of the aspects of the program that might add another dimension to the development of better textiles in Nigeria. Views of curriculum theorists were studied in order to identify points which are important when one is designing an instructional program.

Methods and techniques of current practices in textiles in higher education also were studied to determine what aspects of

contemporary textiles might be emphasized to facilitate, promote, and improve university textile programs in Nigeria.

In addition, Nigerian traditional textiles were studied in order to determine what aspects could be adopted and incorporated into the contemporary studio textiles. This should enable students to gain knowledge, understand techniques and methods, and also develop both an awareness, and an appreciation for traditional and contemporary textiles. The inquiry was designed to suggest the future textile role of Nigerian universities to affirm the values of the various ethnic groups which they serve, and to present certain aspects of the deeply held beliefs of Nigerians.

SUMMARY OF OBJECTIVES

The objectives of this study were to (1) conduct a review of literature on the historical development of traditional textiles in Nigeria including the traditional uses of textiles, the different textile processes in the dominant ethnic groups, and the contemporary textiles in the Nigerian society; the methods and techniques of current practices in textiles in higher education as indicated by the textbooks; and the curriculum theory; (2) to synthesize the material and information collected and use it as a base for designing a curriculum model for textiles.

LIMITATIONS OF THE STUDY

This study was focused on the fields of textiles. However,

information provided in Chapter IV on curriculum theory and the criteria for developing a curriculum model presented in the first part of Chapter V can also be adopted and used in the development of teaching programs in other disciplines at all education levels.

DEFINITION OF TERMS

The terms listed below have appeared in numerous publications on textiles. They have acquired various meanings and interpretations which vary with their uses in diverse subject areas. The definitions, as presented here, reflect their uses as they pertain to this study.

Applique: Sewing cut-out pieces of cloth onto a background cloth.

Bark-cloth: Bark-cloth is manufactured from various species of fig tree. The bark is removed by scraping the outer hard surface of the tree, which is moistened and beaten out to give a flexible cloth. The beaten cloth is then dried in the sun for several days.

Bast fibers: Bast fibers are the stem structure of dicotyledonous plants such as jute and flax, which are obtained by a process called retting. The stalks are immersed in water for several days to allow bacterial decomposition to detach the bast fibers from the woody core.

Batik: The process by which a substance (usually hot wax) is applied to predetermined areas of a fabric for the purpose of resisting subsequent dyeing.

Beam: Horizontal supporting bamboo or wooden poles attached to the frame of a loom. They support the crosspieces and create tension for the warp threads wound around them.

Block Printing: A technique of printing fabric by hand with wood or linoleum blocks by the stamping method.

Drawn-work: The art of superimposing extra designs on fabric by subtracting weft threads at the ends of a cloth. The loose ends (fringes) are occasionally woven out to create a lacy effect with holes at regular intervals which form a subtle design in themselves.

Embroidery: The art of decorating fabric with ornamental needle-work.

Finishing: The process of washing, rinsing, and ironing decorated fabrics.

Grid: A pattern of lines designed for correct placement of a motif in preparation for tracing.

Heddles: Heddles consist of an upper and lower stick with string leashes between them through which warps are passed--some are aluminum.

Hecker: The flexible heddle rod attached to the warp threads for opening the shed. (See below for definition of "shed.")

Inlay: A method of achieving patterned weaving by weaving into a warp-faced weave. The patterns rests on top or floats on the plain weave structure, mostly appearing on one side of a cloth.

Interval: The space between design units.

Loom: The apparatus used for weaving cloth.

Motif: A dominant recurring unit or the dominant theme or subject in a pattern.

Negative space: The background or space not occupied by the motif.

Netlines: The lines of a network.

Overprinting: Printing over previously printed areas with the same or another color.

Patch-work: Textile fragments sewn together to form a larger cloth. The fragments are stitched together along common borders so that no overlap is perceptible.

Placement: Arrangement of pattern elements.

Positive space: The space occupied by the motif.

Pretreatment: A process by which fabric is prepared for the application of dye.

Raffia fibers: Fibers obtained by scraping raffia palm or pineapple leaves until they form a mass of fine, soft threads, which are further softened by pounding.

Reed/Beater: A rectangular wooden frame with close-set thin wood or bamboo between which the warps are passed. It is used in packing the weft threads into the warp tightly. The beater for the vertical loom has a pointed end which enables it to move easily across the warp threads to hold them open for the shuttle to pass through.

Repeat: Basic unit of design in fabric decoration

Resist: Process of preventing dye from reaching designated areas of a fabric.

Rhythm: The rhythm of a pattern consists of either projected or actual lines, which flow through from one unit, or part to another to give unity and movement to the arrangement of a design.

Screen Printing: Technique of decoration in which color is forced onto the fabric through a stencil attached to a screen made of fabric stretched on a frame.

Shed: The opening made in the warp threads by depressing one set of warps by the hecker and cross-piece through which the weft passes.

Shuttle: A wooden boat-like shape which holds the weft threads to facilitate its movement across warp threads through the shed.

Textile: The word textile comes from a Latin word meaning a woven fabric or raw material suitable for weaving, such as cotton or wool. This limited definition makes no reference to such textile methods like screen printing, block printing, stenciling, resists (tie-dye and batik), design methods, dyes, fibers, yarns and uses of textiles, etc. All these aspects of textiles are an important part of this study.

Thread: Yarns used in weaving.

Tie-dye: A resist technique in which a pattern is achieved as a result of reserving some areas by tieing, knotting, folding or sewing so that the dye cannot penetrate the fibers.

Treadles: The foot-controlled mechanisms that raise and lower the harnesses, creating the shed and controlling the warp yarns in order to effect the fabric structure desired.

Unit: The basic part of a pattern.

Warp: Longitudinal yarns in woven fabric.

Weft: Crosswise yarns in woven fabric.

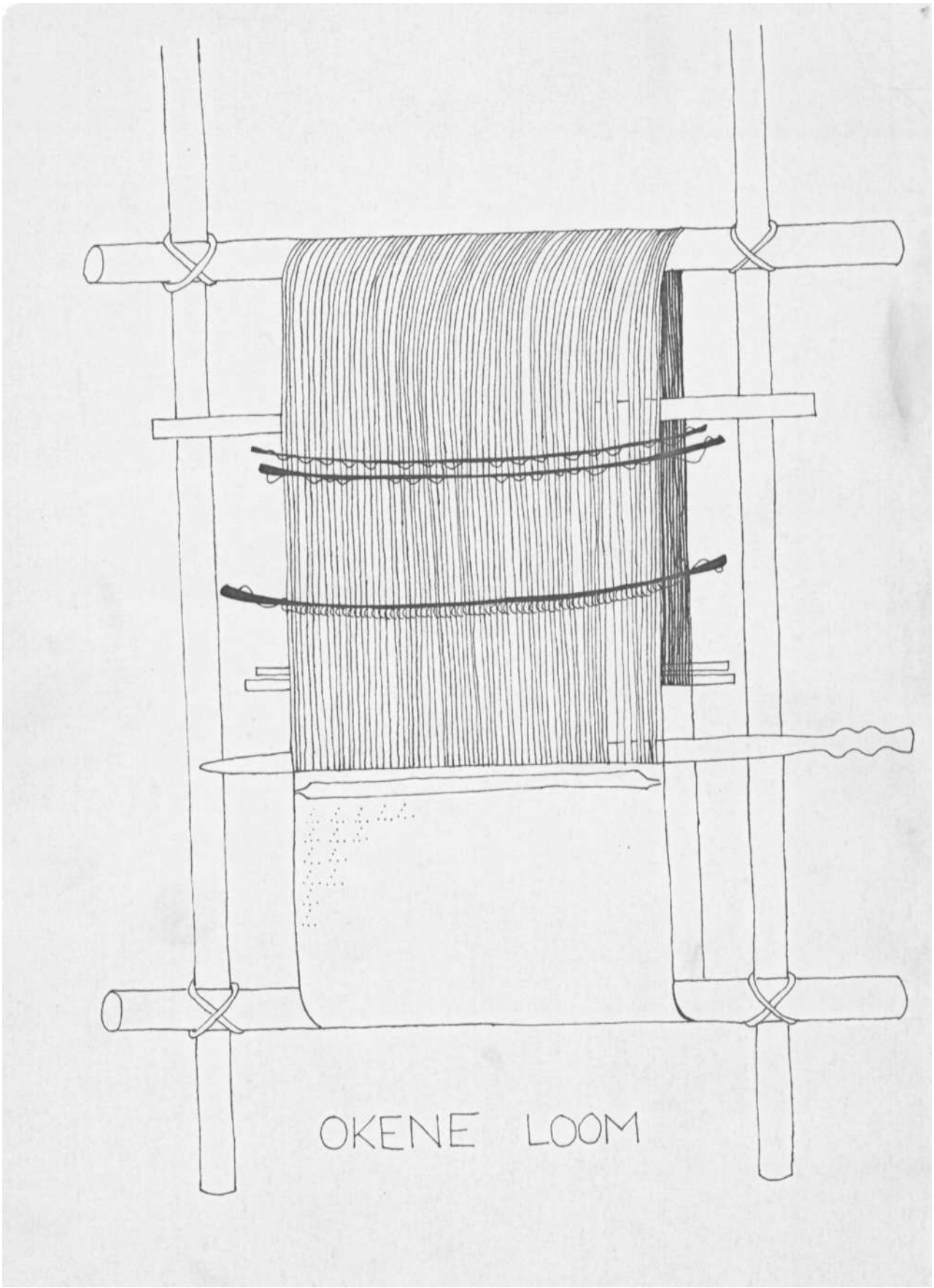
Weaving: The process of making cloth on a loom by interlacing weft and warp threads.

ORGANIZATION OF THE REPORT

Chapter I has presented an introduction to the problem, and provided definitions pertinent to the study. Chapter II presents an historical review of the literature on traditional and contemporary textiles in Nigeria. Chapter III reviews the literature on current practices in textiles at Higher Education as indicated by the textbooks, and Chapter IV reviews the literature on curriculum development.

Chapter V involves the development of the model based on the material and information available in the preceding chapters. This chapter presents the criteria for developing a curriculum model, and an outline of a four year curriculum model in textiles with a sample lesson in design. The summary of the study, recommendations and conclusions appear in Chapter VI.

Readers should note that the text is supplemented with illustration material in the appendix.


OKENE LOOM

Chapter II

REVIEW OF THE LITERATURE

INTRODUCTION

The following three chapters review the topics relevant to the development of a curriculum model for the teaching of textiles at the higher education level in Nigeria. Subsumed below are:

1. An historical survey of the literature reflecting major concepts of the traditional textiles in Nigeria.
2. Current methods in textiles as being taught at the higher education level.
3. Curriculum theory relevant to the topic.

These three points are designed to provide the background information for developing a textile curriculum model for Nigerian higher education institutions which incorporates the traditional and the contemporary modes of textiles.

THE HISTORICAL DEVELOPMENT OF TRADITIONAL TEXTILES IN NIGERIA

Historical and traditional uses of textiles. The wide variety of hand-crafted textiles that exist within Nigeria, and the production techniques and methods transmitted from generation to generation, retain an important position in the society. The traditional textiles serve to document both the continuity and the changes in aesthetic

preferences and the technology which has emerged.[1]

The major functions of Nigerian traditional cloth is to serve as articles of clothing. However, there are particular textiles that serve other purposes as is noted below. In addition, the uses of locally made cloth have continuously changed with the passing of time. Nevertheless, traditional textiles have tremendously influenced the lives and practices of Nigerians in many areas, and have been used to meet specific needs in politics, economics, social and religious observances.[2,3]

Lamb shared a viewpoint expressed by both Picton & Mack, and Kent, He pointed out that:

> It would be hard to overestimate the importance of the role that this craft has played in the domestic, social, commercial, and even religious, aspects of people's lives in West Africa.[4]

As articles of clothing, traditional textiles are worn for different purposes. Most traditional textiles are functional and one article of clothing may have several different uses. Some clothes provide protection and identity; others are used to help the wearer keep up with changing fashions. Conspicuous and expensive textiles often are worn by wealthy and highly placed people to display their

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[1]B. Wass and B. Murnane, African Textiles (Litho Productions, Madison, Wisconsin, 1978), p. 2.

[2]J. Picton and J. Mack, African Textiles: Looms Weaving and Design (British Museum, 1979), pp. 9-16.

[3]K. Kent, West African Cloth (Denver Museum of Natural History, City Park, Denver, Colorado, 1971),pp. 2-3.

[4]V. Lamb. West African Weaving (Gerald Duckworth and Co., Ltd., 1975), p. 33.

wealth, prestige, and status.

From Murnane's report, in the past, cloths were woven for almost any special occasion in Okene. Her report includes theories that:

1. A special cloth was woven for mourners to wear.

2. For celebrating the birth of twins.

3. To show that the wearer was a mother, etc.

According to Murnane, as of the mid-70's, Nigerian weavers generally wove more pieces of cloth for one traditional outfit than was required using two large pieces for the wrapper and one for a head-tie. An additional piece might be used for carrying a baby, or for a shawl. Single pieces of cloth were also woven for tailoring into men's shirts.[5]

Additionally, Nigerian traditional textiles are also used for burial. Picton and Mack observed that Nigerian textiles were not only used to clothe the living but to shroud the dead as well. Traditional textiles were also used to clothe shrines. Colors in particular have significance in ritual and political contexts. Traditional rulers in Benin and other parts of Nigeria, for instance, wear red garments as part of their ceremonial dress. The color serves to display power and to protect the rulers and their people from evil, witchcraft, and various enemies since red is associated with anger, war, and blood.[6]

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[5]B. Murnane, "A Study of the Relationship Which Exists Between an Okene Weaver and Her Cloth" (Unpublished M.A. Thesis, Ahmadu Bello University, Zaria, Nigeria, 1976), pp. 17, 201.

[6]Picton and Mack, pp. 9-10.

Eicher also reported that funeral blankets from Kabba are presently exhibited in the Oshogbo Museum of Antiquities. She added that these funeral blankets were made from narrow strips of cloth woven in red, blue, and green threads and stored so that they were ready to be displayed on the roof of the house of a dead person who had been prominent in society. They served as signs of mourning and respect.[7]

Archeological findings in Igbo Ukwu dating from the 9th Century A.D. revealed a burial chamber of an important person, one assumed to be a ruler, who was dressed in a colorful ceremonial dress and surrounded by symbols of his authority.[8]

Traditionally, textiles have been a highly desirable and marketable commodity in Nigeria and were the objects of extensive trade with European countries and other African countries between the 16th and the 19th Centuries. By 1644, Benin cloths were bought by Europeans, particularly the British and Dutch, for trade with Ghana and certain European countries. According to Plumer and Eicher, Nigerian cloths were used as currency in the Trans-Saharan trade during the 1600s. Indigo cloth also was sold for trade with Brazil, the West Indies, Italy, Switzerland and Northern Europe.[9,10]

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[7]J. Eicher, Nigerian Handcrafted Textiles (University of Ife Press, Ile Ife, Nigeria, 1976), p. 86.

[8]E. Eyo and F. Willett, Treasures of Ancient Nigeria (Alfred A. Knopf, Inc., U.S.A., 1980), pp. 8-9.

[9]C. Plumer, African Textiles: An Outline of Handcrafted Sub-Saharan Fabrics (East Lansing, African Studies Center, Michigan State University, 1971), pp. 36-39.

[10]Eicher, p. 32.

Lamb also noted that Nigerian traditional textiles were a highly valuable commodity as far back as 1354. According to him, back in 1354, a great traveller, Ibn Battuta saw narrow strips of cloth being used as a form of currency. They were valued as much as other novel currencies such as cowrie shells, beads, fragments of copper and silver, etc. Furthermore, Lamb reported that another traveller, called Bath, reported that he saw cloth money being used in the 1850s at Birgimi and Adamawa. Additionally, Lamb made reference to the writings of Barbot, a Frenchman who claimed that Yoruba and Benin cloths were very much appreciated in the Gold Coast area.[11] Murnane also speculated that much of the Okene cloth produced was intended for marketing.[12]

Similarities and differences in textiles among the dominant ethnic groups. Similar resources for handcrafted textiles have long been used by Nigerian producers of traditional textiles such as fibers, dyes, and looms. While the techniques and methods of producing textiles generally were similar, a few variations existed. This was true with regard to materials, designs, and patterns used for decorating the textiles, as well as for the dress styles. Some of the textile production techniques were more popular among certain ethnic groups. Thus the great variety of traditional textiles that exist in Nigeria today reflect the different cultural patterns of a given society.[13]

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[11]Lamb, p. 85.

[12]Murnane, p. 145.

[13]Kent, p. 3.

The obvious variations in cloth that are produced by men's horizontal weaving looms is illustrated by Nupe and Yoruba textiles. The Yoruba man sat on a high stool or bench while a Nupe man sat on a mat on the flat ground with his legs stretched forward while weaving.

The width of the strips of cloths produced by weavers in various ethnic groups on the horizontal narrow loom also varied from two to eleven inches. The strips of cloth woven by the Yoruba, for example, range from four to five inches in width, while the Hausas vary from two to six inches in their weaving. The Nupe cloth is five inches wide, and the Kanuri's is from six to twelve inches. After producing sufficient strips of cloth, the weaver would lay them flat, side by side, and stitch them together in order to produce a larger piece of cloth.

Traditionally, Hausa dyeing has been done mainly by men. Often they were famous for their skill in dyeing textiles without imposing patterns on them. Embroidery was done after the garments were sewn--often in dense stitches which made asymmetrical and non-representational overall designs around the neckline and the pockets. Hausa embroiderers often used geometric designs which were believed to be associated with Islamic people in general. Representational motifs of animals, buildings, flowers, and trees sometimes were repeated four times on household textiles. The Nupe embroiderers produced works which were similar to those of the Hausa.[14]

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[14]Eicher, pp. 35, 39, 83-85.

Unlike the Hausa and the Nupe, Yoruba dyeing long has been a woman's job. The Yoruba became eminently skilled in resist dyeing methods, and produced textiles with elaborate designs and patterns.[15] Yoruba men's garments also were embroidered, particularly at the neckline of the traditional "agbada." Embroidered caps, slippers, and crowns with beads, were made for the highly placed people in the realm.[16]

Major components of traditional textiles: fibers. Reports on Nigerian traditional textiles make reference to the various fibers employed in manufacturing textiles. Among them are bast, bark, raffia, cotton, silk, and wool. Most authors who comment on Nigerian textiles express uncertainty about the origin of these fibers. However, they speculate that some of these materials were used by the ancestors both of today's Nigerians and Africans generally before the 13th Century. Seiber reported that bark cloth was in use as early as the middle of the 16th Century. He also advocated that:

> In earlier times the vertical loom was used by men, primarily for weaving raffia, but later, when the strip loom was introduced from the north, the vertical loom became the women's tool.[17]

Lamb and Holmes also contended that the raffia vertical loom was already established in Benin and other regions of the Niger Delta by the 13th Century.[18]

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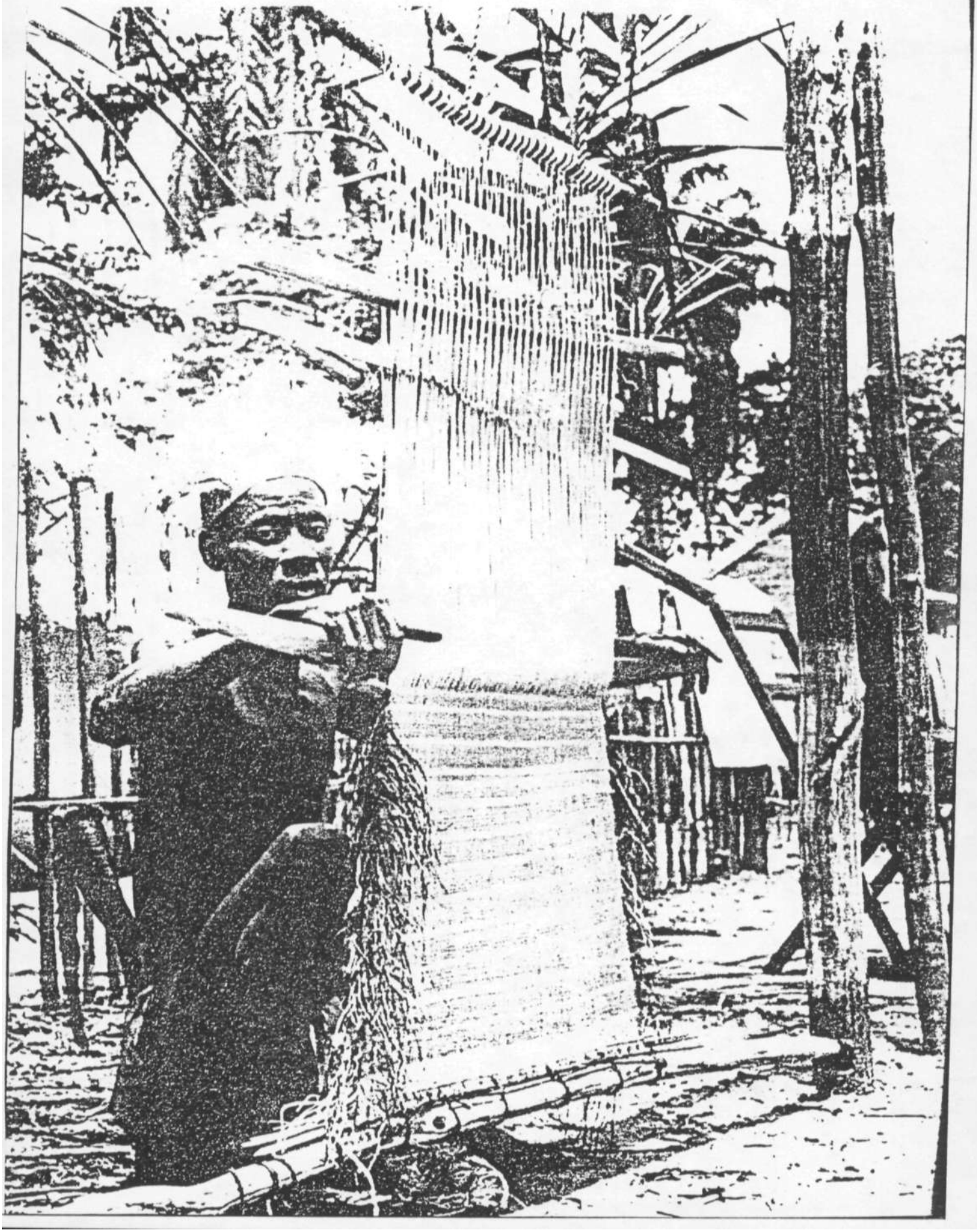
[15] Kent, p. 55.

[16] Eicher, p. 88.

[17] R. Seiber, African Textiles and Decorative Arts (The Museum of Modern Art, New York, 1972), pp. 155-159.

[18] V. Lamb and J. Holmes, Nigerian Weaving (H. A. and V. M. Lamb, Rosford, Hertingfordbury, Herts, 1980), p. 15.

Figure 1. Raffia Loom (From Picton & Mack, p. 20)



According to Lamb, raffia strip cloths found in West Africa may have originated from Fernando Po, an island off the Niger Delta. He also believes that the upright raffia loom of the Congo basin is the prototype of the Nigerian loom, known as the woman's vertical loom. He reported that the 19th Century photographs in the possession of the Basel Mission, strongly suggest a relationship between raffia loom and women's loom.[19]

From Picton & Mack's report, the earliest evidence of the use of bast and other fibers in Africa was found in fragments of cloth excavated by Shaw at Igbo Ukwu in Nigeria, this excavated site was dated by radio carbon to the 9th Century A.D.[20]

Although Picton & Mack's report is supported by Seiber, his estimate of the origin of bast fibers is different. Seiber advocated that the early presence of bast materials at Igbo Ukwu was about one thousand years ago.[21]

Despite the uncertainty surrounding the origin of bast, bark, and raffia fibers, they are believed to have preceded the use of cotton, wool and silk. Several authors observed that the introduction of cotton, wool and silk caused a considerable decrease in the production of raffia, bast, and bark fibers.

Picton & Mack also reported that large quantities of cotton

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[19]Lamb, p. 14.

[20]Picton and Mack, p. 31.

[21]Seiber, p. 127.

believed to date from the 11th Century A.D. were discovered by archeologists in caves in areas surrounding the Niger Delta.[22] Plumer in turn stated that a large cotton industry existed in the Niger Delta area in the 14th Century.[23] Eicher also mentioned that cotton was reported growing near Kano in the early 1500s.[24]

Murnane shares a similar opinion with Picton & Mack, Plumer, and Eicher. She tells us that in 1833, MacGregor Laird, a traveller, reported that most people who lived in areas surrounding the confluence of the Niger and Benue Rivers were occupied with growing and processing cotton. Murnane also speculated that, from the historical evidence, the only type of thread available for the early Okene weavers was one spun from locally grown cotton. According to her report, the natural colors were in various shades, ranging from white to light brown.[25]

Traditionally, cotton is grown among various food crops. It is then harvested and processed locally as needed. Similarly, native wool is believed to have been processed in Nigeria since the 1800's. Western Nigerian silk comes from Anaphe infracta and Anaphe venaeta species, while Northern Nigerian silk comes from Anaphe moloneyi caterpillars, and it is called "tsamian tsamia silk," because the caterpillars feed on tsamia trees. Like cotton, Nigerian silk was exported to

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[22]Picton and Mack, p. 28.

[23]Plumer, p. 32.

[24]Eicher, p. 12.

[25]Murnane, p. 41.

Britain during World War II.[26,27] Although wool and fibers are also produced in Nigeria, the practice of manufacturing wool is rare. Picton & Mack speculate that the practice of producing wool yarns may have been introduced to West Africa by French administrators in the early 1900s, although it was adopted by only a few countries.[28] Since wool is obtained mainly from sheep and to a small degree, from goats and camels, it is only produced in areas where these domestic animals are reared on a large scale.[29]

Woven textiles. Archaeological discoveries have made it possible for the evolution of traditional weaving to be traced back more than a thousand years. Seiber contends that the discoveries of woven materials by Shaw at Igbo Ukwu is clear evidence of early weaving in Nigeria.[30] However, Eicher is uncertain about whether cotton weaving was done simultaneously with other fibers.[31]

Lamb assumes that the knowledge of cotton cultivation might have originated from along the Savannah belt into the Niger region and perhaps the early narrow weaving loom followed in the wake of cotton growing.[32]

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[26]Eicher, pp. 22-25.

[27]C. Ene, "Indigenous Silk-Weaving in Nigeria, " Nigerian Magazine, 81 (June, 1964).

[28]Picton and Mack, pp. 23-27.

[29]M. Saulawa, "Thread Making and Weaving in Katsina Province," Nigeria Magazine, 23 (1946).

[30]Seiber, p. 27.

[31]Eicher, p. 32.

[32]Lamb, pp. 15, 38, 73-74.

Lamb and Holmes also made mention of the recent archaeological research at Igbo Ukwu, which revealed evidence of a number of textiles in use in Nigeria in the period 700 to 1050 A.D. They believed that the presence of woven textiles in Nigeria goes back to antiquity, and that archaeological studies in Benin have provided evidence of the sophisticated use of cloth of both cotton and raffia as early as the 13th Century A.D.[33]

Furthermore, written evidence indicates that the Hausa people had a reputation as weavers as early as 1512. Kano cloth was reportedly used as currency in the 1590s. Eicher supports Picton & Mack's information. She reports Bath's observation in 1851, that dyed and woven cotton was the main product of Kano. She added that the Yoruba and Benin cloth were in high demand among European explorers and other African traders. According to her report, weaving and dyeing textiles is the custom of the Yoruba.[34]

Additionally, Lamb mentioned that the importance of the Kano woven cloth to the neighboring countries continued well into the 19th Century. From his explanation, in 1817, Bowdich noticed that the Muslim community in Asante acquired silk garments from the markets of Northern Nigeria, particularly in Kano.[35,36]

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[33]Lamb and Holmes, p. 15.

[34]Eicher, p. 32.

[35]Lamb, p. 97.

[36]Ene, pp. 127-136.

Plumer's assumptions concerning the origin of woven and dyed textiles in Nigeria include theories that:

1. Weaving and dyeing may have been introduced by immigrants from the desert empire of Mali, where a large cotton industry is believed to have existed in the 14th Century.
2. The introduction of Islam might have encouraged weaving, since woven garments worn by Muslims require a large amount of cloth.
3. The Portuguese traders may have introduced weaving during the Middle Ages.[37]

The Yoruba also have a long history as weavers. In the 15th Century, Yoruba and Benin cloth were in high demand among European explorers and other African traders. Eicher reported that weaving and dyeing textiles was the custom of the Yoruba.[38]

Weaving looms. The two primary types of weaving reported in literature as being popular in Nigeria are done on two different types of looms, the horizontal and the vertical looms.

The horizontal loom. The horizontal pedal-operated loom is used exclusively by men and it is known as the men's loom. According to Lamb, the typical characteristics of the West African horizontal loom is that it is narrow, and it produces cloth in narrow strips or bands, which rarely exceed 12 inches in width. The strips are sewn together to make up a wider piece of cloth. The basic shape of the narrow horizontal loom varies only in relatively minor details from one ethnic group to another. There are also similarities between

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[37]Plumer, p. 32.

[38]Eicher, p. 32.

Figure 2. Horizontal Weaving Loom (From Eicher, p. 53)

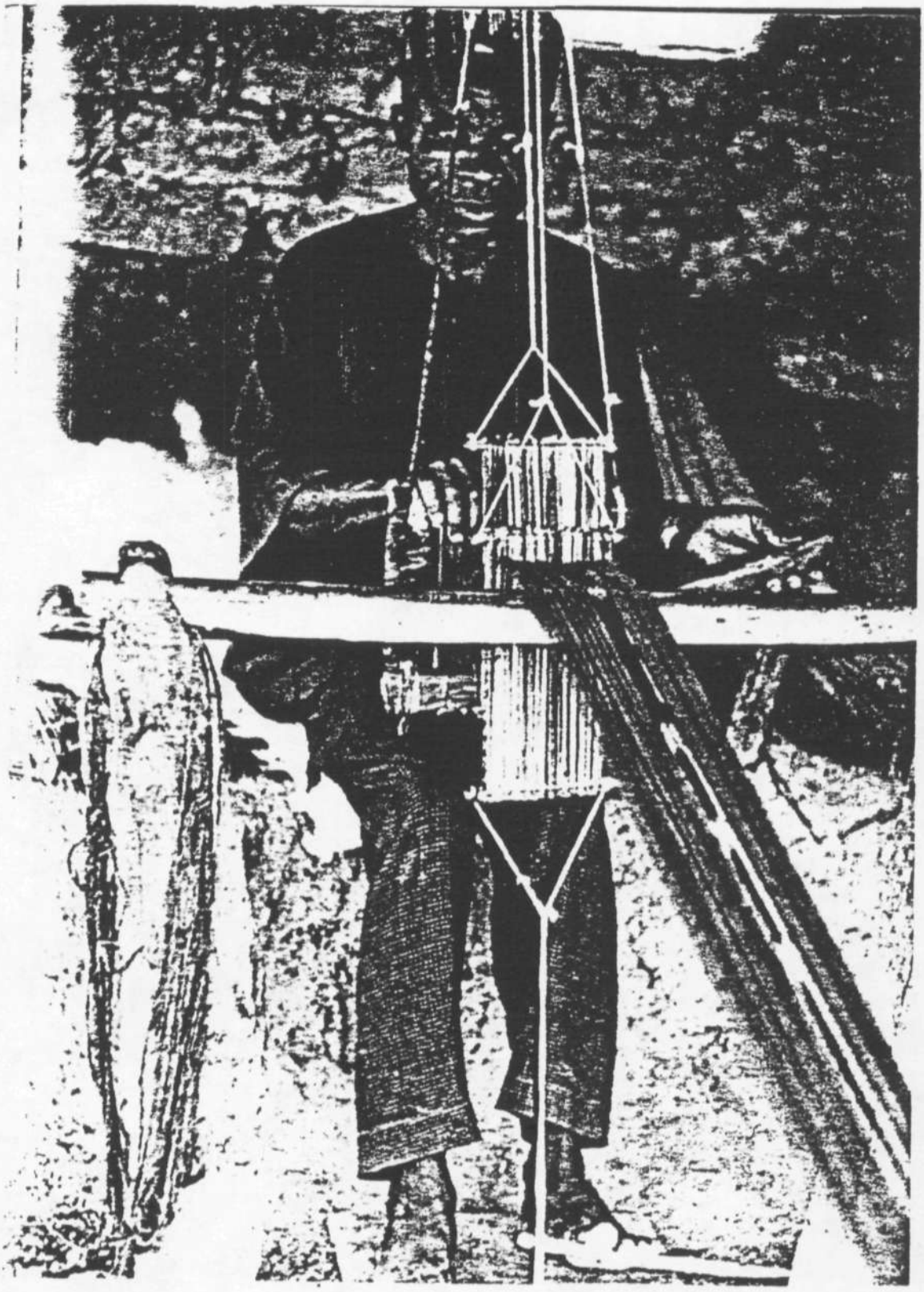
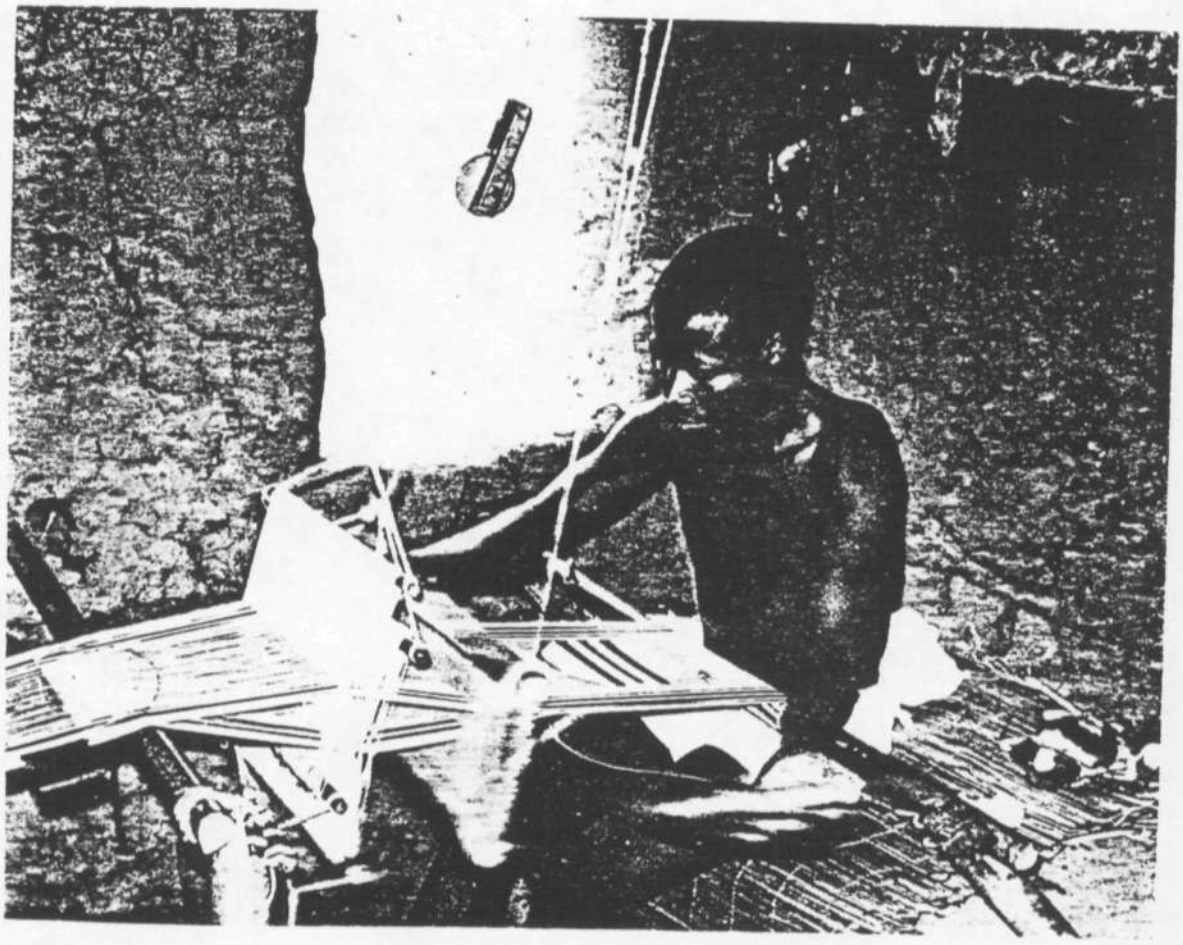


Figure 3. Horizontal Weaving Loom (From Kent, p. 40)



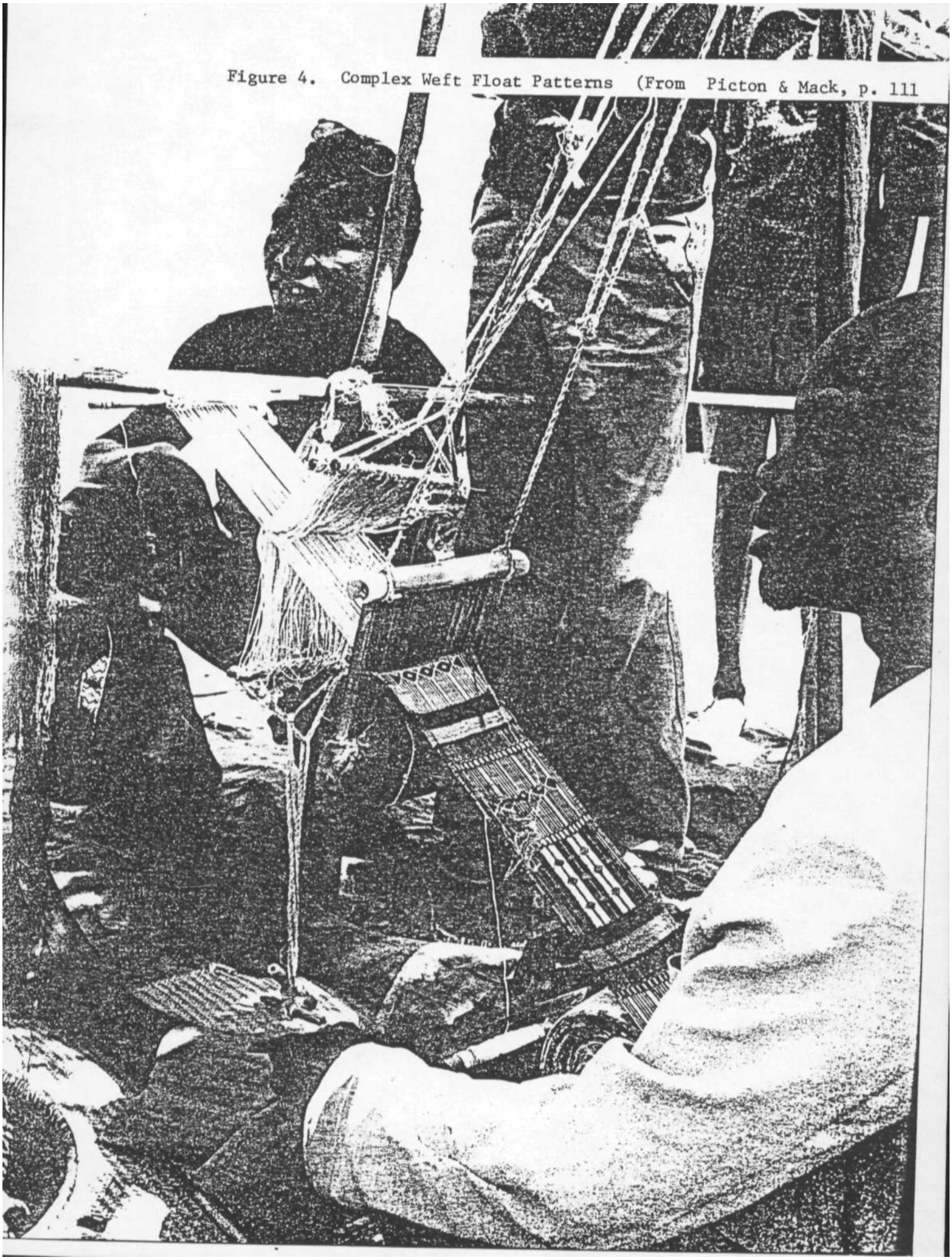


Figure 4. Complex Weft Float Patterns (From Picton & Mack, p. 111

the cloths woven on these looms throughout Africa.[39,40,41]

Eicher shares with Lamb, Chunwike, Boyer, and other authors on African weaving, the opinion that the men's horizontal loom is used for weaving narrow strips of cloth of infinite length which are stitched together to produce a large cloth.[42]

According to Plumer, the narrow band loom has its specific characteristics as it is generally constructed with a rectangular wooden framework which supports the reed and two heddles. Several portable parts include shuttles, heddles, beater, pulleys, beam, hecker, treadle, and fast-loops. Plumer holds a point of view, similar to that of Lamb and Eicher, as she reported that the principles on which the narrow loom works are basically the same all over Nigeria.[43]

The origin of narrow band loom in West Africa. Lamb reported that the narrow band looms found in West Africa are similar to the pit looms of the Afghan-Pakistan border zone. He also speculated that in Islamic world generally, it is common to find cloths which are made up of several elements sewn together selvage to selvage. Lamb also made mention of some Caucasian saddle covers which have as many as six strips

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[39]Lamb, p. 20.

[40]R. Boyer, "Narrow Band Weaving Among the Yoruba of Nigeria," Craft Horizons, 20 (Nov.-Dec., 1964).

[41]K. Murray, "Weaving in Nigeria: A General Survey." (Nigeria, X, 1938).

[42]Eicher, pp. 32-44.

[43]Plumer, p. 34.

sewn side by side, each strip being less than ten inches wide. According to him, looms similar to a typical Indian-pattern pit loom were reported being used in Nigeria, Cameroun, and Chad. He also made mention of the ground loom illustrated by Rene Gardi, and the Fali horizontal loom in Cameroun, conclusions which were confirmed by University of Utrecht staff members in 1970.

Lamb believes that external influence on West African weaving may have come from the East--from the direction of Egypt, the Arabian Peninsula, and the Indian subcontinent. Thus, he also suggested that the narrow band loom might have originated from across the Sahara, from Maghreb. Lamb also reported that as of the 1970s, women in Iran are currently using a loom which is similar to the West African narrow-band loom.[44]

Cloth woven on hand looms in strips of about 15 inches is also found in other parts of the world particularly in Thailand, Guatemala, Peru, Chile, Mexico, Arizona, Yugoslavia, Bosnia, Pakistan, Afganistan, Turkey, Albania, and throughout the Islamic world.

According to Lamb, the narrow horizontal treadle loom used in so many countries, is not much different in principle, wherever it is found. However, he pointed out certain variations which merit consideration including the frame.[45]

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[44]Lamb, pp. 19-21.

[45]Lamb, pp. 19-45.

The vertical loom. According to Lamb and Holmes, the Nigerian vertical loom had its origin in the vertical raffia loom of South Western Africa. They also reported that the use of vertical looms is generally restricted to women and it is often known simply as the Nigerian woman's loom.[46] However, photographs taken by the Basel Mission suggest that in the 19th Century women's loom was being used by men as well as women.[47]

The Egyptian loom is also believed to be the prototype of the woman's vertical loom used in Nigeria today. Kent therefore links the origin of the West African vertical loom to Egypt. He suggested that:

> It was brought across the desert, adopted by Hausa women and transferred by them to Southern Nigeria.[48]

Kent also describes the vertical loom as being less sophisticated than the horizontal men's loom. He explains that the vertical loom is constructed with a rectangular frame which enables it to stand in an upright position when in use. The warp threads are manipulated manually by the heddle stick. Most of the variations of vertical looms in Nigeria are characterized by approximately the same basic apparatus. The basic shape of the vertical loom varies only in relatively minor details from people to people.[49,50]

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[46]Lamb and Holmes, pp. 15-16.

[47]Lamb, p. 18.

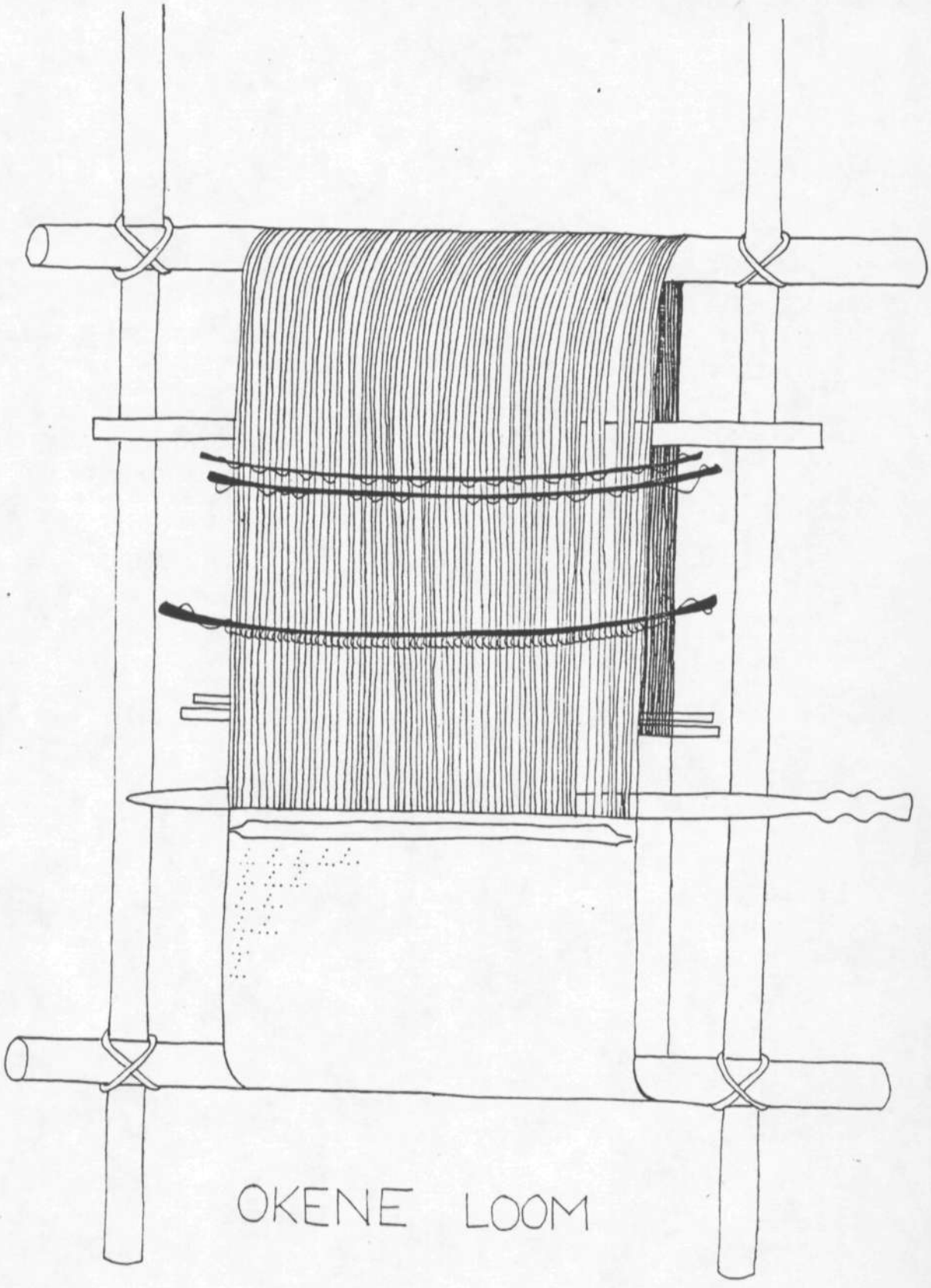
[48]Kent, p. 42.

[49]Kent, p. 41-50.

[50]V. Lamb and A. Lamb, West African Narrow Strip Weaving, Catalogue of Exhibition of Lamb Collection, (Textile Museum, Wash. D.C., March 7-Sept. 20, 1977).

Figure 5. Vertical or Upright Weaving Loom

(From Murname, p. 28)



Lamb concluded that the use of vertical looms is currently confined to Southern Nigeria for all intents and purposes. Nevertheless, Holmes listed five major areas within Nigeria, where the women's vertical loom is widely used today. These are:

1. Throughout Yorubaland, in Ogun, Oyo, Ondo, and Kwara.
2. In the Northern confluence region known as the Middle Belt region, in areas around Niger and Benue Rivers, Kwara and Abuja.
3. The Southwest confluence area, stretching from Kwara to parts of Bendel. The major weaving centers here are in and around Okene, Amuro, Igara, Ososo and Kabba.
4. Among Ibo speaking people, there are three groups of weavers: (1) in Imo, the town of Akwete produces very popular cloth known as "Akwete"; (2) on the west bank of River Niger, in Bendel, Asaba people produce cloths that are quite distinctive and have their own cultural importance; (3) in the eastern parts of Anambra, weaving centers are found in and around Nsukka, and Abakaliki.
5. Women weavers are also found throughout Hausa land, in Kano, Sokoto, Kaduna, and Bauchi for instance. They are concentrated in and around towns like Kaduna, Zaria, Kano as well as smaller urban communities and villages.[51]

Dyed textiles. The use of indigenous dyes in producing textiles is a popular tradition among Nigerian tribes including the Hausa, Yoruba, Tiv, Nupe, and Jukun. In many parts of Nigeria, the fibers manufactured for domestic purposes like bark, cotton, wool, and silk, are frequently dyed before they are woven.[52]

The traditional dyes are obtained from plants which either grow wild or are cultivated locally. A number of colors are obtained in

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[51]Lamb and Holmes, pp. 130-173.

[52]Eicher, p. 58.

various shades as desired by users. Shades of red are obtained from leaves of guinea corn, teak and henna bark, and the roots of African rosewood as well as the wood of camwood. Black dyes are obtained from the sap of old phisic nut trees.[53,54]

The popular traditional dye is Indigo. It is obtained from several plants of the genus Indigofera, which grow wild and also are cultivated. These plants produce a variety of shades of blue dye. The yoruba wild indigo is regarded as providing more permanent dyes, while the Hausa's produce extraordinarily shiny cloth. The Hausa city of Kano is one of the most famous and important centers of indigo dyeing in West Africa. From Picton & Mack's report, by the middle of the 19th Century, it was estimated that there were about two thousand vats in use in Kano city.[55]

The role of Kano as an important center for the preparation of textiles, particularly their indigo dyeing had been noted by Clapperton before the 1850s. Lamb also reported that Bath described Kano native woven and dyed cloth as being at its height by the mid 19th Century. In addition Lamb observed that cloths made of handspun cotton are locally dyed in indigo or any desired color before weaving is done. However, robes are occasionally made of plain white cotton strips

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[53]Plumer, p. 35.

[54]J. Barbour, Adire Cloth in Nigeria, Origin of Some Adire Designs. (Institute of African Studies, University of Ibadan, Nigeria, 1971).

[55]Picton and Mack, pp. 37-38.

decorated afterwards by painting or by tie-dyeing.[56]

Embroidery. Embroidery is generally associated with Islamic people, since it was deeply rooted within the context of Islamic culture during its developing stages. It is a long standing tradition among Muslims in the Hausa, Nupe, and Yoruba societies. Eicher notes that Bath observed that embroidery on clothing was well-established in Kano and Katsina by the early 19th Century.[57]

From Heathcote's observations, the Hausa style of embroidery developed from two distinct sources of inspiration: (1) the interlacing forms which he believes have oriental characteristics and (2) the angular and spiral shapes which are believed to be indigenous. Heathcote also described the earliest structural basis for developing embroidery designs as including simple geometric patterns. These were applied to particular seams, edges, and areas of stress such as the edges of the pocket and around the opening of the neckline.[58]

Traditionally, embroidery on men's clothing such as robes, trousers, and caps has been done by men. The designs on caps are worked out by hand, using a wide range of colored yarns such as silk, knitting wool, and handspun cotton yarns of different colors.

Embroidery on household textiles is done by women. The designs are based on representational motifs of animals, building, flowers,

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[56]Lamb, pp. 86,97.

[57]Eicher, p. 83.

[58]Cf. Picton and Mack, pp. 189-198.

and trees and are loosely stitched by hand using traditional yarns. The embroidered cloths are used as household furnishings such as bedspreads, tablecloths, wall hangings, and so on.[59]

Patchwork. Patchwork is produced by sewing a series of colored pieces of cloth together to form a complete large cloth which is frequently made into a garment. The art of patchwork is done mainly in Efik and in the Rivers State, and it is one of the least known textiles in Nigeria. Picton & Mack observed that patchwork is unpopular, and that it is found only in very remote parts of Nigeria where it is done by women.[60,61]

Drawn and painted textiles. Evidence of drawing and painting on cloth exists among the Hausa and the Ibibio. Its origin among the Hausa is connected with the Islamic invasion of Hausaland in the 19th Century. The technique of painting is believed to have been used to inscribe Koranic writings on cloths and on flags. Historically, the characteristic of painted charm garments produced in Hausaland is to protect the individual who uses it from evil.[62]

Appliqué. Appliqué method was first introduced in Nigeria in the 1880s, during the Islamic religious war, when Usman Dan Fodio led

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[59] R. Bravmann, Islam and Tribal Art in West Africa, (Cambridge,

[60] Plumer, p. 39.

[61] Picton and Mack, p. 181.

[62] Picton and Mack, p. 163.

a struggle against the Hausa emirates. According to Picton & Mack, the Islamic paraphernalia used during the war included appliqued flags. These are currently exhibited in the British Museum. Picton & Mack observed that the appliqué costume was initially derived from the tattered patches applied to the ordinary Mahdist costume. Further information on this subject reveal that appliqué cloth was used in what were regarded as prestige garments.[63]

Images seen on appliqué cloth often are associated either with royalty or historic events. Many people also include images that are associated with their ancestors. Appliqué cloth thus becomes an heraldic device and may include prestige images associated historically with particular families. Kent observed that some appliqué articles were decorated with the insignia of kings, cult objects, proverbs and scenes of daily lives. Appliqué cloth was made by first cutting patterns from cloth and then rearranging and sewing them onto a gold or black cloth background to create a better appearance.[64]

CONTEMPORARY TEXTILES IN NIGERIA

Historical influences on contemporary textiles. Most of the techniques and methods employed in producing traditional cloths in the past have been passed on from generation to generation. It is a tradition among Nigerians for a family to teach certain skills to their children. The procedures of making traditional textiles in

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[63]Picton and Mack, p. 171.

[64]Kent, pp. 70-78.

Nigeria today are therefore, for the most part, inherited. However, the constant changes in the society as a result of modernization coupled with changes in the needs and demands of Nigerians have affected traditional lifestyles and textiles to a large extent. Eicher associates the constant changes and variations in textiles with the changing environment in which the arts and crafts are practiced.[65]

Kent also emphasizes the influences and the impact of the changing society on African traditions. However, she is also of the opinion that the desire of African countries to achieve national identity as well as modernization has increased the popularity of traditional textiles and has helped those textiles to retain some of their distinctive traditional qualities.[66]

Major differences between the historical and the contemporary textiles: Fibers. Traditional textile cloths produced by the Nigerian forebears were woven with locally manufactured fibers. The practice of processing fibers locally is gradually fading out because of the availability of large quantities of imported yarns and the ease of access weavers have to these yarns. The imported yarns are cotton, silk, wool, and rayon. The abundance of imported yarns has contributed to minimizing the use of grass fibers in Nigeria. In addition, commercial yarns are now being produced in large quantities by the Nigeria textile industries.

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[65]Eicher, p. 1.

[66]Kent, p. 3.

Some weavers prefer commercial yarns because they produce a more even texture, various colors, and are assumed to be stronger than handspun yarns. Nevertheless, among many Nigerians, hand-spun fibers still have a high prestige value.[67]

Textile processes: Stencilling, silk-screen, drawn-work, and elaborate embroidery. A starch resist method which is similar to Javanese wax resist techniques is claimed to be more recent in origin than tie-dyed indigo cloth and at present is popular among the Yoruba. Eicher reported the two methods of applying starch as being stencilled patterns and freehand patterns. The stencilling technique, which is a popular resist method among Yoruba is employed in producing "Adire" cloth. It is a recent technique with many advantages. Picton & Mack were particularly impressed with the practice of recycling used stencils so that they can be used after a period of time. He also mentioned that the stencilling method requires little time compared to the other resist methods.[68]

Another recent development has been the production of traditional starch designs by silk screen method. The art of drawnwork is also a recent one, developed from the commercially woven gingham patterns which were imported from England. Drawnwork is one of the least known arts in Nigeria, and is done mainly by Baguma women in the Rivers state.

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[67]Eicher, pp. 20-21.

[68]Picton and Mack, p. 167.

Within the last century, machine embroidery has become extremely popular all over Nigeria. Traditional Hausa designs are copied by machine with some adaptations introduced. Both traditional and Western styles are embroidered by machine. In addition, contemporary hand embroidery is being done with imported yarns on plain-colored commercial fabrics.[69]

Designs and colors. Designs on woven cloths are based on the repetition of straight stripes, geometric shapes, animals, etc. Asymmetrical patterns are popular, and stripes with white patterns are found in most parts of Nigeria. Weft-striped patterns are very popular, too, and monochromatic bands are sometimes woven without patterns on them.

Lamb observed that some patterns on woven textiles found in West Africa tend to run across the cloth and at right angles to the line of warp, and that some cloth patterns have tribal insignia. As a result, certain background designs are named after ethnic groups. He suggests that the linking of tribal name to cloth might have originated from the numerous ways of commemorating some events in which ethnic groups participate, or to honour a member of a particular clan.

Lamb also pointed out that, Islamic influences appear to dominate the underlying designs on traditional cloths in some parts of West Africa. Most designs contain geometric shapes, patterns of dots, stripes, and animals--particularly lizards, birds, scorpions, etc.[70]

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[69]Eicher, pp. 89-91.

[70]Lamb, pp. 64, 136.

Furthermore, Holmes pointed out that cloths woven on the vertical loom can be embellished by a wide range of designs and systems of patterns. The simplest technique involves warp stripes which are set up during the process of warping up the loom. The common patterns are dominated by indigo, blue and brown on a warp of natural cotton colors. Holmes outlined the various ways cloths woven on vertical loom are embellished. These are:

1. That the vertical loom permits the use of weft band decoration just as much as warp stripes, and such bands are particularly common in traditional cloths woven south of the Niger-Benue confluence.
2. That woven cloths are also patterned by means of holes, usually achieved by separating parts of the warp into roles of bunched threads woven to leave spaces in between. Such holes may be accomplished by the carrying over of warp threads. These patterns are usually found in Yoruba cloth that was woven on the horizontal loom.
3. That the texture of the webs can be used for patterning, either by decreasing or increasing the density of the weft. A typical example is seen in some Okene cloths which have very delicate raised warp patterns.
4. That Inlay and Inlay floats also provide common forms of patterns. Inlay technique which is considered to be a fairly recent innovation involves the use of supplementary weft threads which lie on top of the web so as to reveal the

pattern on the surface.

Ilorin Yoruba weavers produce inlay and inlay float patterns by lifting warp threads at quite large intervals, and passing a weft through the shed. The warp threads are picked out by hand or by using supplementary heddles. Some kind of inlay patterning is found among most of the Nigerian weavers using vertical looms, nevertheless, the most elaborate forms come from Akwete, Okene, and Owo. Holmes also observed that there are certain common features in inlay patterns throughout Nigeria.[71]

Nigerian textile has infinite possibilities for pattern variations. Murnane classified Okene woven patterns into four major groups:

1. Plain weave consisting of a solid color of warp and of weft.
2. Striped weave consisting of vertical or horizontal stripes.
3. Plaid or checked which is a combination of striped warp and multi-colored weft.
4. Patterns are also created by adding extra heckers to create shed openings allowing a pattern weft to float over the warp.[72]

With the importation of dyes, colored yarns and the increase in the production of commercial cloth today, the designs, colors and the general appearance of the fabrics produced in Nigeria have changed. The designs are more intricate and the color variations have increased. Eicher describes recent resist methods as having a wider variation of

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[71]Lamb and Holmes, pp. 186-188.

[72]Murnane, p. 16.

colors.[73] Picton & Mack also observed that a wider variety of colors are used in contemporary embroidery. The colors of the yarns used in embroidery today include green, purple, brown, red and yellow. The commercially woven gingham patterns used for drawn work have various designs in checked or striped forms employing different colors such as red, orange, green and blue.[74]

Different colors have specific meanings to users of traditional textile cloths. Lamb speculated that the use of certain dominant colors in cloths may reflect the mood or aspirations of the wearer. The use of gold, for instance, is presumably associated with warmth, long life, and prosperity. White is usually worn to symbolize deities or the spirits of the ancestors. Green is usually worn by young girls to suggest newness, freshness, and puberty, while black stands for melancholy, devils, old age, death, and the like. Red is commonly worn for loss, sadness, death, and to indicate anger.[75]

Picton & Mack shares Lamb's opinion. He reported that traditional rulers in Benin, Igbirra, and other parts of Nigeria wear red robes as part of their ceremonial dress to display power, and to protect themselves and their people from evil, witchcrafts and enemies since red is regarded as threatening. Picton & Mack emphasized that the basic

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[73]Eicher, p. 91.

[74]Picton and Mack, p. 193.

[75]Lamb, p. 141.

color spectrum of Africa, red, black and white is rarely without specific meaning, although the precise nature of the meaning varies from people to people.[76]

Summary of the Nigerian traditional textiles. The traditional handcrafted textiles reviewed in this section represent a wide variety of textile technologies common to Nigeria. The major components as reported in the literature include:

Fibers/Yarns	Patch-work
Woven textiles	Drawn and painted textiles
Dyed textiles	Appliqué
Embroidery	

The highlights of each component follows: The yarns used in producing the handcrafted textiles include bark, bast, raffia, cotton, silk and wool. The origins of the use of these fibers is not known. However, historians have speculated that some of these fibers were used by the ancestors of today's Nigerians as far back as the 9th Century. Picton & Mack, Eicher, Plumer, Lamb and Holmes believe that the use of bark, bast, and raffia preceeded the use of cotton, wool and silk.

Like yarns and fibers, the origin of the other textile arts is also unknown. It is suggested in the literature however, that the knowledge of manufacturing textiles presumably originated from the East, probably from Egypt, and gradually spread to West Africa; particularly during the Trans-Saharan trade in the 1600s. From Picton & Mack's

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[76]Picton and Mack, p. 9.

report, the Islamic religious wars, "The Jihads," contributed to the spread of some textile crafts particularly appliqué.

The major changes being introduced in textiles by the present generation reflect the type of yarns used and the newly introduced methods and techniques of manufacturing fabric. Within the last century, commercial and imported yarns have almost completely replaced traditional yarns. This change is caused by the availability of large quantities of commercial and imported yarns in the country within the last century. In addition a variety of colored yarns are found in stores all over Nigeria, and are preferred by most weavers.

New techniques and methods of manufacturing textiles are also being introduced, Within the past two decades, the new methods and techniques being used include:

Stencilling

Silk-Screening

Drawn work

Elaborate embroidery

Stencilling and silk-screening originated from the old starch resist method, known as batik. The elaborate machine embroidery is derived from the hand-made embroidery style, which also has become more elaborate.

Chapter III

CURRENT PRACTICES IN TEXTILES IN HIGHER EDUCATION AS INDICATED BY TEXTBOOKS BEING USED IN NIGERIA AND U.S.A.

Typical contents. The textbooks being used in teaching textiles in higher education both in Nigeria and the United States, emphasize and encourage a step-by-step sequentially structured approach to textile teaching. While some books deal mainly with specific subject areas others attempt to treat almost all areas in textiles.

Most of the textbooks are carefully planned to enable an inexperienced student to develop some understanding of textile methods and techniques by moving from simple to complex processes. They offer the basic outline for foundation level textiles and provide the background to working with materials. Typically they include a discussion of the basic elements and principles of design, design networks, and introduction to color. They also deal with the processes of textile production and the various techniques of fabric decoration such as block printing, resist methods including batik and tie-dye, and the various weaving methods and techniques. Some information on materials and equipment, and the preparation of dyes, fibers, as well as the pretreatment of fabrics, finishing and the history of textiles are also included.

Criteria of design. The elements of design as described by Kaufman are line, shape, color, texture and space. Kaufman explains

further that these elements are interrelated in application on the basis of certain principles of design. He went on to describe the principles of design as being the combination of elements of design to create rhythm, balance and emphasis to produce a unified design.[1] Graves reported three more elements of design--direction, proportion, and value--in addition to those mentioned by Kaufman.[2]

Ocvirk, Bone, Stinson, and Wigg suggest that the organization of elements and principles should serve as guides to expand the vision of beginning art students. They explain further that these elements are not restricted to one interpretation or application, but may help in finding certain solutions for the unity of a picture, drawing or design.[3]

Design networks. Proctor's book, The Principles of Design, is focused on design networks and it provides extensive information on the principles of pattern formation and their application to design. It includes elaborate descriptions, drawings, and explanations of the processes of producing design networks. Proctor described a total of eight of these networks: the brick, the square, the diamond the triangle, the ogee, the hexagon, the circle and the scale networks.

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[1]G. Kaufman, Design on Fabrics (Litton Educational Publishing Inc., 1967) pp. 41-50.

[2]M. Graves, The Art of Color and Design, (McGraw-Hill book Company, Inc., New York, 1951), pp. 201.-410.

[3]O. Ocvirk, R. Bone, R. Stinson, and P. Wigg, Art Fundamentals: Theory and Practice (W. M.C. Brown Company, Publishers, Dubuque, Iowa, 1972), p. 20.

Figure 6. Proctor's Design Networks (From p. 8,9)

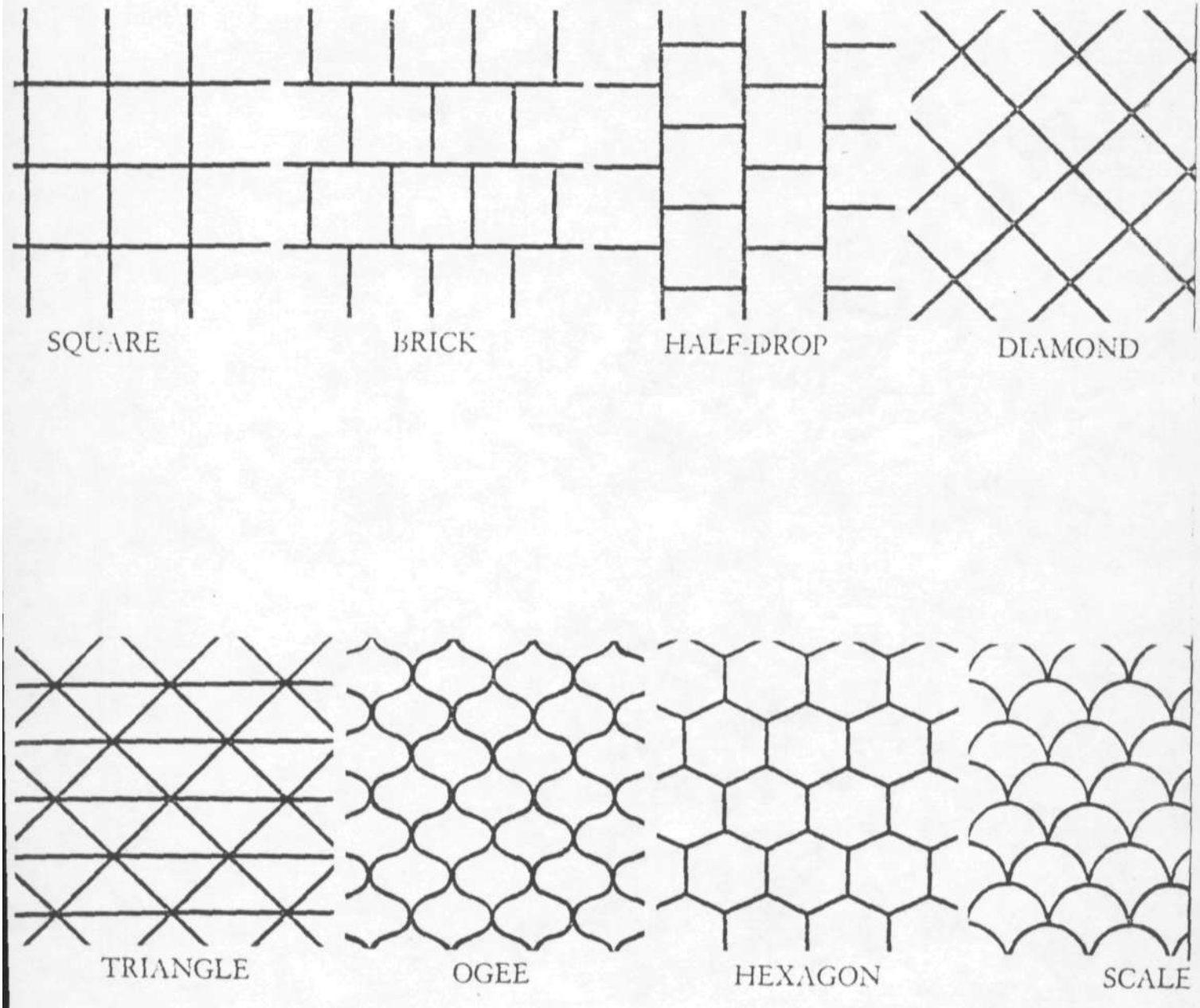
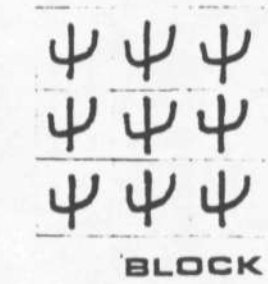


Figure 7. Kaufman's Design Networks (From p. 58)

Types of repeats.



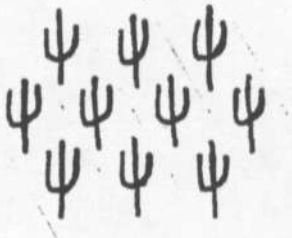
BLOCK



BRICK



HALF DROPS



DIAMOND



OGEE

The major characteristics of these basic networks is their tendency to interlock or connect endlessly in any direction.[4]

Kaufman refers to design networks as design methods. Like Proctor, he believes that design methods are fundamental in textile production. However, he describes only five types of repeat methods, namely, the block, the brick, the half-drop, the diamond, and the ogee.[5]

Albeck emphasizes the importance of repeats. According to him the repeat is one of the first and most fundamental aspect of textiles, hence the most important thing to consider in designing for textiles. Albeck believes that the half-drop is more effective and the most common used by textile designers. The second repeat method he mentioned is called quartering which can only be applied to accidental textures and not to controlled figurative designs.[6]

Palmer believes that a repeat pattern may be regular or non-regular. He explained further that a regular repeat pattern is an over-all design consisting of one or more motifs repeated at regular intervals. A non-regular pattern is one in which each motif and interval is intuitively arranged in individual relation to one another, while still preserving the unity between all the parts. Patterns

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[4]Kaufman, pp. 41-50.

[5]R. Proctor, The Principles of Pattern: For Craftmen and Designers (Van Nostrand Reinhold Company, New York, 1969), p. 8.

[6]P. Albeck, Printed Textiles (Oxford University Press, New York, 1969), pp. 42-53.

can either be arranged in predetermined systems such as the design networks, or by allowing the position of each motif to be determined individually in relation to the other patterns around it. According to Palmer, the positive and the negative aspects are interchangeable from a design point of view. He stressed that all shapes in a design should attain equal status.[7]

Like Palmer, Ocvirk and his associates suggest that all the surface areas in a picture should contribute to its total unity. They also pointed out that areas in a drawing, design, or picture which are recognizable objects may be called positive areas and unoccupied spaces termed negative areas. They believe that negative areas are as important to the total unity of a picture just as are the more explicitly laid down positive units.

They explained that balance is extremely fundamental to the unity of a picture and is achieved through the visual judgment of the observer. They described types of visual balance such as horizontal balance (left and right), vertical balance (up and down) and a balance of forces which are distributed around a center point called a radial balance.

The four authors believe that factors which contribute to balance in a work of art when combined with elements are:

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[7]D. Palmer, Introducing Pattern: Its Development and Application (B. T. Batsford Limited, London, Watson-Cuttill Publications, New York, 1970), pp. 9-20.

(1) Position or placement
(2) Size
(3) Proportion
(4) Quality
(5) Direction of the elements

Position plays a leading role among these factors, they pointed out. Visual balance results in two basic types of organization, symmetrical and asymmetrical. In pure symmetry, identical optical units are equally distributed on either side of a vertical axis in a mirror-like or identical repetition. In asymmetrical balance, there is no central point and no dividing axis. Balance might be achieved between an area of strong color and a large empty shape. Parts of a picture may be contrasting if they contribute to the all over balance of the total picture. Ocvirk, Bone, Stinson, and Wigg described asymmetrical balance as a visual control of contrasts through a felt equilibrium between parts of a picture.[8]

Palmer reported that a pattern is incomplete if colors or tones are not applied to it. He believes that at least two different colors or tones are needed in any pattern. One of the colors may consist of the original motif or the positive parts of the design, or the background color of the fabric, or paper on which the motif is placed. In planning a design, it is appropriate either to work with color from the beginning or to introduce color after the units are in repeat. Palmer also advises designers to consider the method of joining one basic unit of the design with the next, early in repeat

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[8]Ocwirk, Bone, Stinson, and Wigg, pp. 20-23.

planning to provide unity, rhythm and direction on the entire fabric.[9]

Colors. The importance of colors is emphasized in most of the literature dealing with textiles. Textbook authors such as Albeck, Proud, Kaufman, and Kafka encourage and emphasize a careful study of colors by textile designers. Albeck suggested that the textile designers' choice of colors should never be an arbitrary one, but that each of the colors used in a design should be as much an intergral part of the design as the shapes. He explained further that the outcome of a design depends largely on the tonal relationship of the colors used.[10]

Emphasizing the mixing of colors, and the need to overlap colors to produce different ones, Proud encourages designers to serve as many colors as possible from a few by mixing different colors or by overprinting.[11]

Kaufman describes two characteristics to be used as guides for combining colors. They are those involving related hues, known as monochromatic colors, and those involving contrasting hues, known as complementary colors. He advises designers to start working with three primary colors, red, blue, and yellow and proceed to more complex relationships.[12]

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[9]Palmer, pp. 9-16.

[10]Albeck, pp. 38-41

[11]N. Proud, Introducing Textile Printing (BT Batsford LTD., London, and Watson-Guptill Publications, 1968), p. 34.

[12]Kaufman, p. 60.

Like Kaufman, Proud, and Albeck, Kafka emphasizes the need for exploring the study of color. He believes that the exploration of colors should start with the three primary colors, then proceed to secondary colors, tints, and shades as well as the tertiary colors. Kafka also observed that it is possible to obtain an unlimited range of colors from a supply of red, blue, yellow, white and black.[13]

Dresser reported that basically there are three primary colors, blue, yellow and red, from which other colors can be obtained. The procedure requires mixing any two or a combination of the primary colors to obtain other desired colors. Secondary colors result from a mixture of any two primary colors, and tertiary colors are obtained from a mixture of any two secondary colors. Monocromatic colors are derived from one hue, and a variety can be achieved by changes in value and intensity. Colors with one hue in common are called analogous colors. A typical example of analogous colors is yellow, green, and blue-green, with yellow being the common hue in the colors mentioned. Dresser classifies colors related by hue in two groups, those related to red are referred to as warm colors and those related to blue are referred to as cool colors. Warm colors seem to advance and cool colors seem to recede. Dresser explains further that complementary colors are those that lie opposite each other on a color

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[13]F. Kafka, The Hand Decoration of Fabrics (McKnight and McKnight Publishing Co., U.S.A., 1959), pp. 161-164.

circle and a triad refers to any three hues of equally distant on the color circle.[14]

Itten surveyed the characteristics of color effects and identified seven different kinds of color contrasts which might serve as an essential part of a course of instruction in textiles. These are: (1) contrast of hue, (2) light-dark contrast, (3) cold-warm contrast, (4) complementary contrast, (5) simultaneous contrast, (6) contrast of saturation, and (7) contrast of extension. Each is examined below.

Contrast of hue. This is illustrated by the undiluted colors in their most intense luminousity. The obvious combinations are: yellow-red-blue; red-blue-green; blue-yellow-violet; yellow-green-violet-red; violet-green-blue-orange-black.

Light-dark contrast. The strongest expression of light and dark is illustrated by black and white, since the effect of black and white are obviously opposite.

Cold-warm contrast. An obvious example of a light color is yellow, while violet is a dark color. These two hues reflect the strongest light-dark contrast.

Complementary colors. Colors which maintain their stability when they are placed among others.

Simultaneous contrast. A simultaneous contrast occurs between

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[14]C. Dresser, Principles of Decorative Design (Cassell, Peter, and Galpin, Beile Sauvage Works, London, 1973) pp. 30-49.

any two colors that are not precisely complementary. Their stability is disturbed and they lose their objective character when they are placed among others.

Contrast saturation. The contrast between pure, intense colors and dull diluted colors. Saturation of colors relates to the degree of the colors.

Contrast extension. The relative areas of two or more color patches show the contrast between much and little, great and small quantity of colors.[15]

Methods of textile decoration. Textile decoration embraces all methods of applying designs and colors to a woven fabric. It is these methods that most textbooks on fabric decoration are concerned with. The methods of textile decoration presented in the literature include: block printing, stencilling, screen printing, direct methods and resist methods. Most of the methods listed here are described in detail by each of the authors on textile decoration.

Block printing. Block printing is described by Albeck, Kaufman, Kafka, Proud, Gaines, and Clarke as involving the use of either wood, block, plate, linoleum or potato into which designs are cut or carved. The carved areas are covered with ink and the design is transferred to the printing surface by stamping.

Design for block printing. According to Gaines, the first thing to consider in planning a design for block printing is the size

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[15]J. Itten, The Elements of Color (Van Nostrand Reinhold Co., New York, 1970), pp. 32-63.

of the block in relation to the fabric. If the block is to be stamped vertically, it would be repeated several times across the length of the fabric while the horizontal placement would allow for fewer repeats. Secondly, it is necessary to consider whether the design relates to itself when printed in sequence or will be an isolated design. Gaines advises designers to establish a system of placing the block on the fabric so that the finished fabric is interesting, not disorganized. She suggests that blocks should be placed in different directions, reversed, rotated or inverted within the established repeats.[16]

Registration. Gaines also emphasizes the importance of correct registration of the blocks used in a print. She suggests ways to ensure exact registration when working with several different blocks. These are:

1. To trace around the actual block and to limit the original drawing to that area.
2. To retrace the outline of the block on each additional piece of paper.
3. To make sure that the traced edges of the block on the original drawing and on the tracing paper match when drawing the different color separations.
4. To match traced edges with actual edges of the block when transferring the traced design to the block.

16P. Gaines, The Fabric Decoration Book (William Morrow and Co., New York, 1975), pp. 52-54.

She suggests that the first block should be one that prints out to its edges so that the subsequent blocks can be lined up with the printed block and stamped into place. Thus, the first block serves as a background block and registers the outside edges of the design. Light pencil lines are made on the cloth indicating where each corner of the block will be printed. As an alternative, a strip of masking tape can be placed along the outside edge of the cloth and marked in positions that match the blocks. A string can also be stretched across the fabric and fastened on each side of the cloth to match with the whole progression of the repeat.[17]

Stencilling. Gaines describes stencilling as a process of printing in which a design is cut out of thick paper, and paint is applied through the cut out areas, depositing a color reproduction of the design on the cloth. Kaufman's description of stencilling is similar to that of Gaines. However, Kaufman adds that the sheet of cardboard, plastic, thin metal and wood are used in addition to specially prepared paper.[18, 19] Both authors believe that the technique of stencil printing originated from China and then moved to Japan and finally to Europe where it was first used to decorate fabric and paper.

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[17]Gaines, p. 51.

[18]Gaines, p. 161.

[19]Kaufman, p. 86.

According to Gaines, the stencilling process involves three stages. These are: designing, cutting and execution.

A stencilled pattern is identified by the presence of bridges in the pattern which hold the stencil together to stop the separate portions of the design from dropping out.

The basic materials needed in stencilling are:

1. Cutting tools such as: a utility knife, an X-acto knife, a single edged razor blade, manicure scissors, and a sharp stencil cutting knife for cutting curves, circles, and fine lines.
2. Brushes
3. Stencil papers
4. Tracing paper and carbon paper
5. A piece of hard cardboard
6. A white blotting paper to be placed under the cloth to absorb extra dye.
7. The fabric (cotton, silk, wool, synthetic, felt or linen)
8. Dyes or pigments
9. A wooden table top or a smooth floor
10. Masking tape or thumbtacks for fastening down the cloth to be stencilled.
11. The design.

To insure proper registration in stencil printing, tracing paper color separation should be made by laying separate pieces of

tracing paper over the original design and tracing all areas of the same color including the outline of the frame itself. The same procedure should be followed for separating each color in the design. Each piece of tracing paper should then be lined up with a separate piece of tracing paper, and the design traced to the stencil by using carbon paper. The positive areas of the design are then cut out.

For multicolored prints, one stencil is required for each color, and since color separation and registration methods are rather complicated. Gaines suggests that inexperienced printers should start with a one color stencil. In cutting, stencils are to be placed on hard cardboard in order not to dull the knife. The stencil is to be cut towards you with the knife held perpendicular to the board. Gaines advises printers to make all cuts as smooth as possible, since ragged edges will show in the final print.

Stencilling can be achieved by painting with a brush. The brush is dipped into color and run across a newspaper several times to reduce the dye on it. The color is brushed from the edge of the stencil to the center of the open area with repeated strokes. Circular strokes help to force the color into the fibers of the cloth. Color can also be splattered or sprayed through the cut stencil.[20]

Screen printing. The technique of screen printing was developed from Chinese stencil printing and is one of the most recently developed

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[20]Gaines, pp. 63-75.

techniques in fabric decoration. Screen printing works on the same principles as stencilling except that the screen holds all the parts of the stencil together and the dye is poured onto the screen and pulled across from one end to the other.[21]

The block-out methods used in screen printing, as discussed by authorities, include the knife cut out stencils, photographic stencils, photo emulsion stencils, photographic film stencils, and liquid block-out.

Knife-cut film stencils. According to Kaufman, the lacquer-type or water-soluble films are laminated to a thin backing sheet of paper or plastic. Plastic backing is preferable since it is transparent, moisture-resistant and more durable than the paper backing. Kaufman advises printers to avoid working with films that shrink or expand in damp working conditions because they interfere with correct registrations. The backing sheet of paper or plastic serves as the negative areas and holds all the parts of the design or the positive areas of the design in place.

Cutting tools. Sharp stencil knives and special tools for cutting lines, are available in art stores in different sizes. Compass cutters and swivel knives for cutting curves and irregular shapes are also found in local art supply shops.

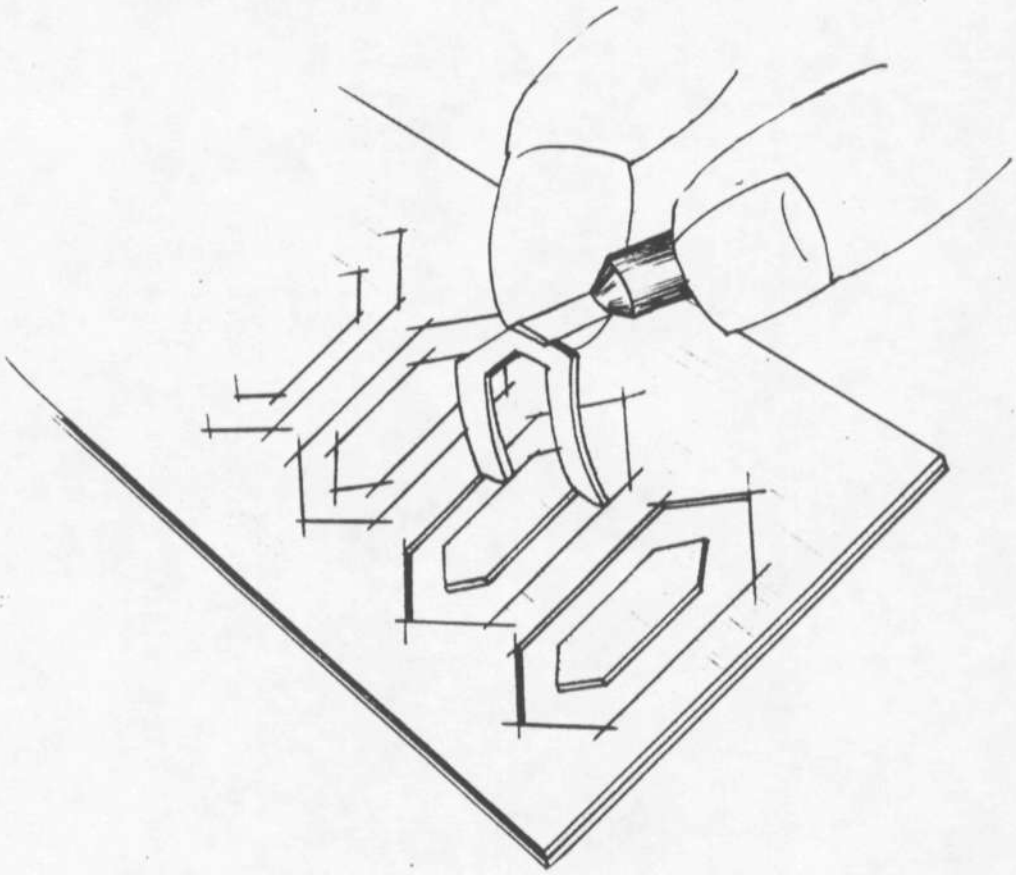
Stencil cutting. The desired design is first planned on paper, the repeat worked out and then it is painted in appropriate colors, next, it is taped to a drawing board. The film is placed over it and

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[21]Kaufman, p. 86.

Figure 8. Knife Cut Film Stencil (From Kaufman, p. 91)

Removing the film from the back



secured with tape and cut out with light strokes. The areas to be printed are cut out in the film and peeled away. The negative areas are held by the backing paper or plastic, when they have adhered to the screen and the backing is peeled away. Printers are advised to become acquainted with the stencil cutting methods before they start planning a design for printing.

Liquid block-out stencils. Like the starch resist method, liquid block-out stencils require filling in all areas of the screen through which the printing medium should not pass. The positive or dye areas are left open to permit the passage of the printing medium.

In using liquid block-outs, the screen is laid over the drawing which has been traced on the silk with a soft lead pencil. A single screen can be manipulated to print many colors by overprinting. When this is done the block-out is applied to all parts of the screen except those areas that are to be printed with the first color. After printing, the first block-out is removed completely and a fresh block-out is applied to all parts of the screen except the parts which are to be printed with the second color. Some parts of the second color may be left for overprinting. This process is repeated until all the desired colors are printed.

Photographic stencils. Two types of photographic film stencils are reported for fabric printing. The first consists of gelatin emulsion over the paper base. The second is the gelatin emulsion in liquid form. In preparing a design for photographic printing, drawing is done on a sheet of transparent paper with an opaque ink and a brush.

Spraying, spattering, or stamping can also be effective.

Photo emulsion stencil. The process is also considered very effective in screen printing. The emulsion and sensitizer used in this method are prepared according to the prescribed directions of the manufacturers. The emulsion is then applied evenly to the mesh on the screen and left to dry. The sensitized screen is then exposed to florescent, photoflood, or carbon arc lights to ensure proper exposure of the design areas. The exposed screen is then washed under a running tap and dried up.

Photographic film stencils. Many brands of film available for the photographic film stencils are processed by the same procedure or a similar process. The design is transferred to acetate with opaque ink. The screen is cleared and the developer prepared. The presensitized film is placed on a flat surface with the backing side up. The design is placed over it, again with the backing side up and the acetate positive is also positioned on it. A sheet of plate glass is placed over them, and the film is exposed for a given amount of time. The film is then developed and transferred to a tray of water at the recommended temperature to wash away the soluble parts. When all design areas are open, the film is set by placing it in a tray of coldwater. It is then placed on a flat board with the film side up. The screen is dampened with water, positioned over the film and pressed down lightly. When the moisture is removed and the screen dried, it is ready for printing.

Screen printing process. Color selection obviously must be made prior to the printing. The color is mixed and tested. The fabric is prepared by being washed, ironed, and taped down on the printing table a few inches away from the table's registration rail.[22] The distance between the rail and the edge of the cloth depend on the type of printing method to be used and the type of screen available. In block printing for instance the fabric needs to be several inches away from the table's registration rail or bar for easy manipulation of the block or printed on a table that has no registration rail. The screen is then registered.

Registration stops are fixed in position along the rail, following the length of the fabric. The design is first measured and the stops are positioned according to the width of the design. An angle bracket is attached to the top of the screen, and in printing, the angle bracket is placed to rest against the stops on the rail to hold the screen in position.

The screen is then placed on a separate piece of fabric or paper and wet out by printing it several times, after which it is moved and positioned over the fabric, registering the angle bracket against the first stop on the rail. A squeegee is held about three inches from the end of the screen in the area reserved for the printing medium, to prevent the medium from flowing over into the design areas.

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[22]A metal bar attached along one side of a printing table for the purpose of registering the screens in order to print the separate colors accurately from one end of the fabric to another.

The medium is then poured across the screen, between the squeegee and the frame. Next the squeegee is placed behind the medium and swept or pulled across the silk with a firm stroke. The squeegee holds the dye at the end of the screen, and the screen is then lifted by raising one side and peeling it away from the fabric. It is then moved to the next position, printing alternative rows to the end of the fabric, going back to print the alternate rows left unprinted earlier until the first color is completely printed. Thus, allowing the rows printed earlier to dry before printing the ones next to them. Another screen printing method requires using the measurement of the design to construct square grids on the fabric into which the design is later printed, registering by eyes.[23,24,25,26]

Direct methods. From Kaufman's report, direct methods are very ancient means of decorating fabric. However, they provide for great freedom and spontaneity today. Variations of direct methods include brushing, spraying, rolling and sponging. He suggests that plastic spatulas and palette knives can also be used for spreading color or for creating linear effects.

In painting, Kaufman encourages designers to use dry and wet brush effects. To achieve dry brush and sharp edges in a design,

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[23]Kaufman, pp. 86-106.

[24]Albeck, pp. 84-90.

[25]W. Clarke, An Introduction to Textile Printing (Butterworth and Co., London, 1964) pp. 34-35.

[26]Kafka, pp. 20-24.

he suggests that one color should be left to dry before another one is applied to lie over it. For watered or blurred effects, the work can not be left to dry but should continue until it is completed.

The use of rollers produces various effects depending on the amount of color carried and the type of movement done. The effect of sponging also depends on the amount of color and the method of application used. Sponging and rollers can be used for creating stripe effects, while spraying is used to achieve solid, graded or textural effects.[27]

The two direct methods described by Kafka include painting and splatter techniques. The splatter technique requires splattering dye from a tooth brush or any similar item onto the fabric. It produces results not unlike those achieved by spraying.[28]

According to Gaines, direct methods are not given much attention in the literature due to the assumption that the success of the different direct methods depends entirely on the efforts of the artist. She believes that there are special ways of applying textile dyes directly to cloth that can compensate for any lack of self confidence or experience in the area. The techniques of direct methods described by Gaines follow.

Canning. The canning technique is rather unusual but simple and inexpensive. The process requires the following steps:

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[27]Kaufman, pp. 103-106.

[28]Kafka, pp. 94-98.

1. taping or tacking the fabric securely to a table.
2. opening both ends of a tin can and placing it on the taped fabric.
3. pouring printing pigment into the can.
4. grasping the can firmly and pulling it across the fabric in straight lines, curves, zigzags or any other predetermined motif.

The width of the lines obviously can be varied by using cans of different sizes. For a line that extends to the edge of the fabric, the can and the remaining pigment can be put into a pail at the edge of the fabric by rapidly pulling the can off the table and into the pail. For a design that stops before the edge of the fabric, a piece of plastic can be placed at the stopping point and the can pulled onto the plastic and into the pail or moved to the next designing area.

Painting with rollers. Rollers are available in a variety of sizes and widths and therefore can be used to create different designs--particularly striped designs--and for overlapping colors and shapes. In printing, fuzzy edges sometimes occur, but this can be prevented by marking the edges of the design with masking tape.

Painting with cotton balls or small sponges. This process provides little clusters of color on fabric which subsequently can be worked over with brush strokes to create different shapes and textural effects.

Painting with medicine droppers, oil-cans, and plastic squeeze bottles. These can be filled with liquid dye and used for drawing

linear designs on fabrics. Any previous contents should be removed with care.

Spray bottles. The technique involves pouring liquid dye into a clean, empty spray bottle or a plastic squeeze bottle and spraying directly onto the cloth. It is effective for creating texture, gradation, and linear effects in a design.

Gathering and dripping. This technique is similar to the tie-dye. The fabric is gathered up and held tightly in the hands. The loose end is then dipped directly into the dye bath. This method can be used for decorating the borders of a skirt or dress, or to create spotted and circular designs on fabric.

Painting with brushes. Different effects can be achieved in brushing depending on the size of the brush used, the amount of dye, and the type of manipulation done.[29]

Resist methods. Proud defines the resist methods as a process of pattern making by which certain design areas are covered with a substance which will resist dye. The two resist techniques commonly found in the literature are tie-dye and batik, the latter also is known as wax resist.[30,31]

The role of batik and tie-dye in contemporary textiles is emphasized by Meillach. She pointed out that:

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[29]Gaines, pp. 83-95.

[30]Proud, p. 40.

[31]E. Samuel, Introducing Batik (BT Batsford Ltd., London, 1968), pp. 15-25.

> Batik and tie-dye, as new as they are ancient, are capturing tremendous attention. They are being explored, updated, and combined in highly imaginative ways.[32]

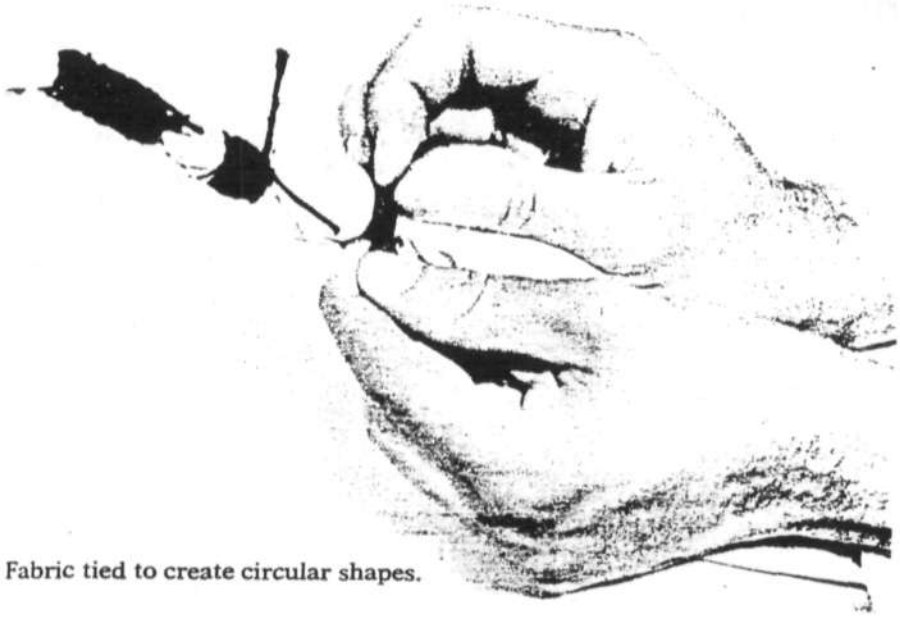
The techniques of producing tie-dye as explained in the literature are tieing, knotting, folding and sewing some areas of the fabric to stop the dye from penetrating the prepared areas. According to Maile, the process of tie-dyeing requires the following steps:

1. Washing the cloth to remove dirt, grease, starch, etc.
2. Ironing the washed cloth.
3. Drawing out the pattern onto the right side of the cloth.
4. Preparing the cloth by knotting, binding, folding, sewing, waxing or a combination of the resist methods.
5. Selecting and testing the desired colors and preparing dye.
6. To wet the prepared cloth and drain out surplus water.
7. Place the cloth in the dye solution and soak it for the recommended length of time.
8. Remove the cloth and squeeze out surplus dye.
9. Rinse the cloth in clean water.
10. Squeeze out surplus water and hang up to dry.
11. If a second or third color is to be used, tie up the cloth again in areas where the previous color is to be reserved, repeat the dyeing process for each subsequent color and dry it.
12. Untie the sample.
13. Rinse the cloth again and dry it partially.

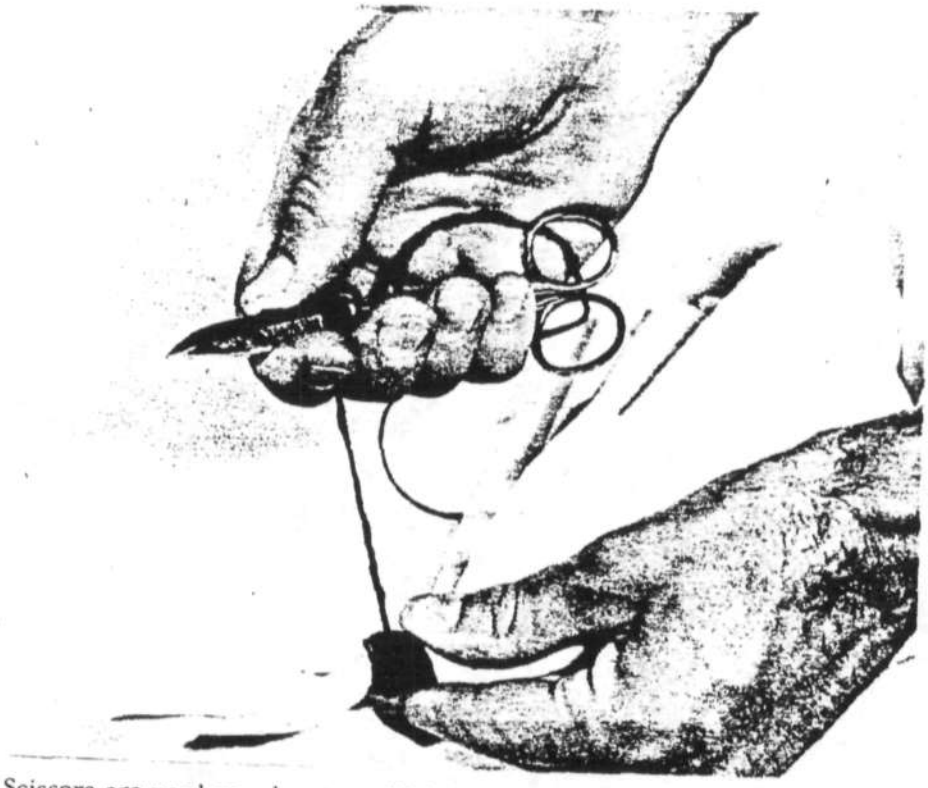
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[32] D. Meilach, Contemporary Batik and Tie-Dye: Methods, Inspirations, Dyes (Crown Publishers, Inc., New York, 1973), p. 3.

Figure 9. Tieing and Dyeing Method (Kaufman, p. 121)

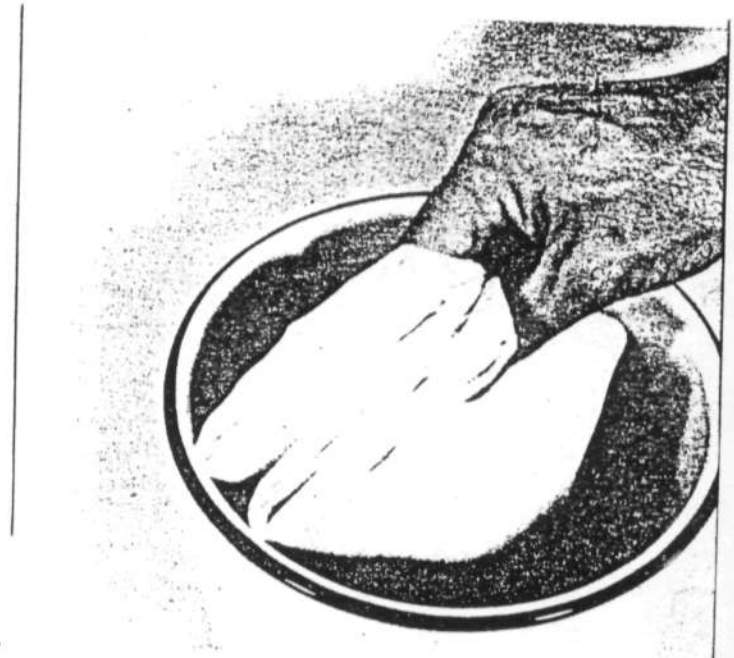


Fabric tied to create circular shapes.



Scissors are used as a bar to pull binding tight.

Figure 10. Folding and Dyeing Methods (From Kaufman, p.128)



Steps in dip-dyeing a folded fabric.

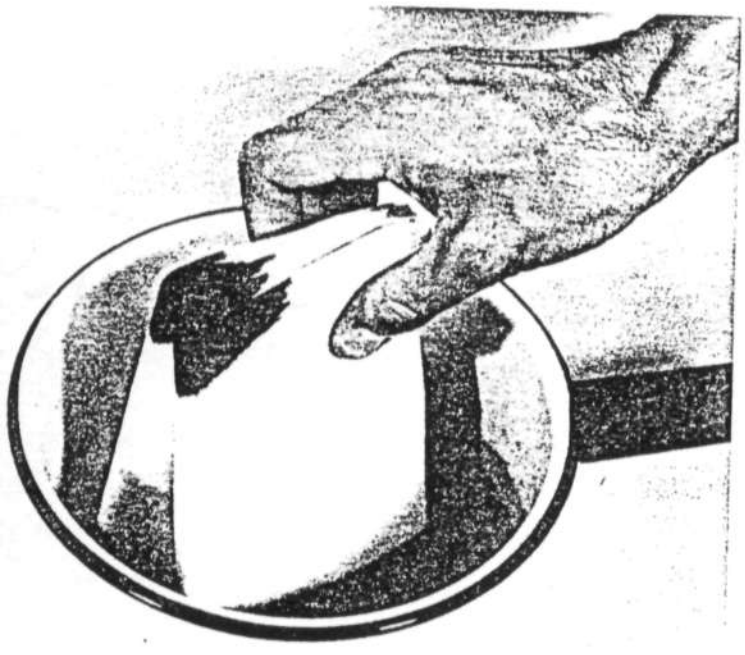
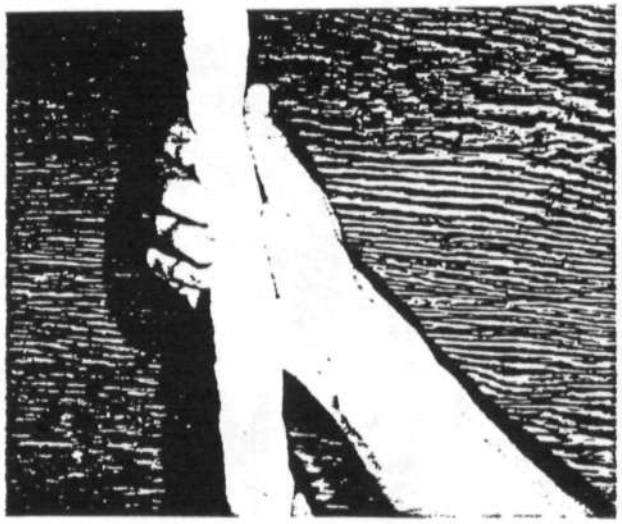
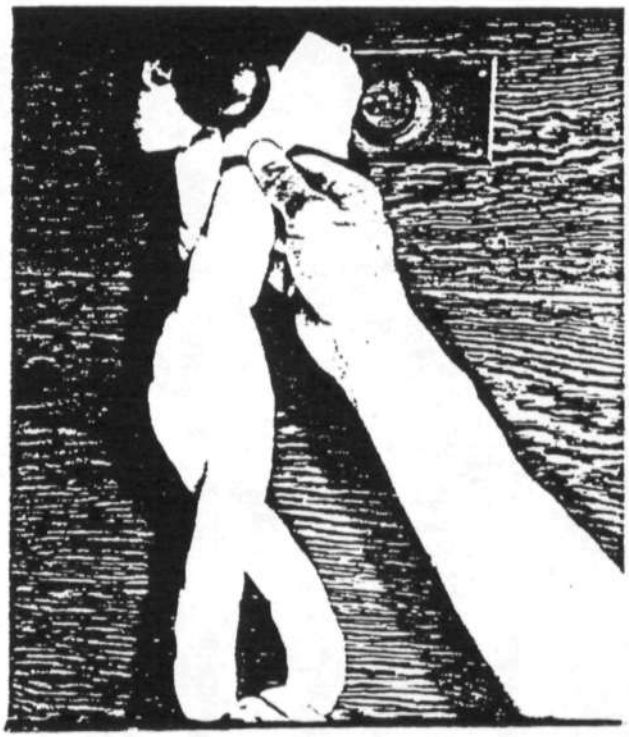






Figure 11. Twisting, Tieing, and Dyeing (Kaufman, p. 126-127

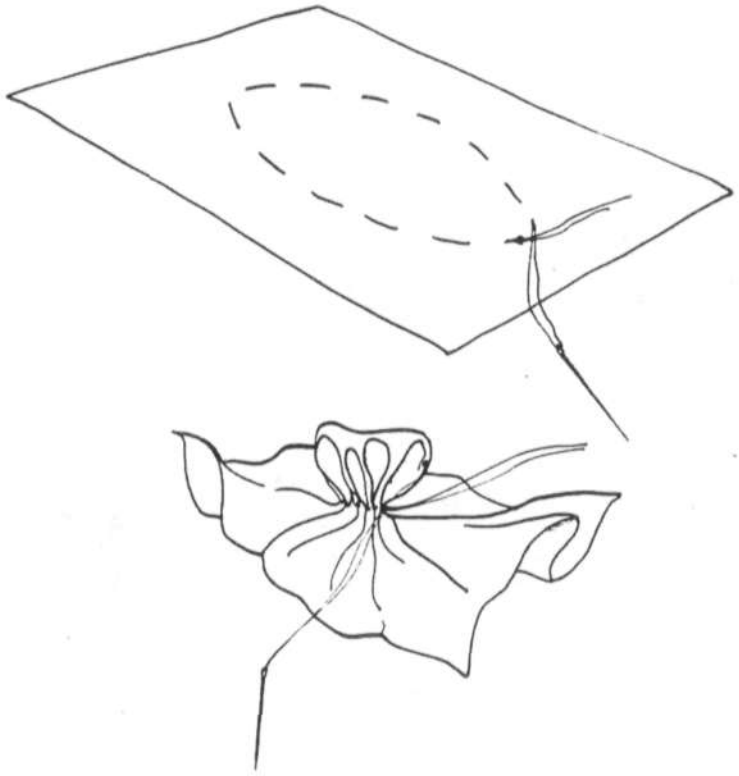




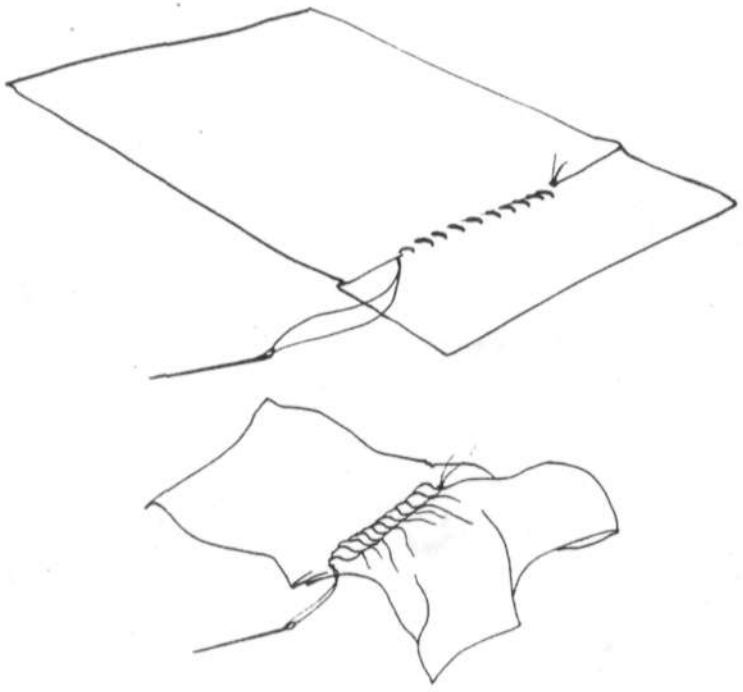


Steps in twisting a pleated fabric.

Figure 12. Sewing Methods (Kaufman)



Running stitch, flat and drawn up.



Whipping stitch, flat and drawn up.

14. Iron while still damp.

15. Collect any lengths of used threads and tie them together for future use.[33]

Wax resist or batik is a method of coating some areas of a fabric with wax to stop the dye from penetrating into the coated areas when the fabric is immersed in the dye-bath. Meilach reported that the word "batik" is Indonesian and means "Wax writing." The process, she explains, involves brushing on melted paraffin and beeswax so that it penetrates specific portions of the fabric. The waxed fabric is then painted or dipped into dye solution. The typical characteristic of batik is the crackle or veining that appears throughout the design and unifies the colors and composition.[34] The batik materials and tools consist mainly of wax, tjanting tool and brushes all of which are available at art supply stores.[35,36]

To summarize, special emphasis has been placed on materials and processes of fabric decoration and their unique potentials. As the writer's review clearly suggests, there is much similarity in the literature regarding methods and techniques of textile production in higher education level. The textile practices reviewed in this section contain much similar information and repetition with respect

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[33]A. Maile, Tie-and-Dye As a Present Day Craft (Taplinger Publishing Company, New York, 1963), p. 13.

[34]Meilach, p. 3.

[35]Kaufman, pp. 120-135.

[36]Clarke, p. 33.

to processes of manufacturing and decorating textiles.

Information which is provided offers a basic outline for foundation level courses and for certain advanced courses in textiles. The authors cited were those who described those aspects of textiles which relate specifically to fabric decoration. They presented criteria for design as well as elements and principles of design. In order to produce an effective design, the literature indicates the elements of design have to be subtly interrelated. A total of nine design networks, repeats or design methods were considered to be essential and fundamental in fabric production.

The methods of textile decoration reviewed in this section included:

Block printing	Silk screen printing
Paper stencilling	Liquid block-out
Direct methods	Resist methods

Chapter IV

CURRICULUM THEORY

General statement about four areas of emphasis found in the literature. A review of the curriculum literature suggests several points which are important when one is designing an instructional program. Four major fundamental elements are identified by curriculum specialists and which need to be taken into consideration in developing a curriculum plan for instruction. These are:

1. Educational purposes:
   Aims, goals, and objectives the school should seek to attain
2. The content of instruction
3. Learning activities or learning experiences
4. Evaluation.

This section will discuss mainly the views of three curriculum theorists, namely, Tyler, Chapman, and Zais, on these fundamental elements of curriculum organization.

Educational purposes. Tyler, Chapman, and Zais emphasize the need for schools to have some conception of the specific goals to be sought. They believe that these educational objectives should provide (1) the criteria by means of which educational materials are selected, (2) how the content is outlined, and (3) how instructional procedures, tests, and examinations are prepared.

For purposes of outlining objectives, Tyler suggests that

several sources should be considered. In his words:

> No single source of information is adequate to provide a basis for wise and comprehensive decisions about the objectives of the school.[1]

According to Tyler, sources of educational objectives should include:

1. Studies of learners themselves
2. Studies of contemporary life outside the school
3. Objectives from subject specialists
4. The use of philosophy in selecting objectives.
5. The use of psychology of learning in selecting objectives.

Zais also encourages curriculum designers to explore and analyze all variables operating in a specific situation. He also proposes that the sources from which objectives are derived should be categorized into three major groups: empirical, philosophical, and subject matter sources.[2] Zais believes this will help in clarifying the diverse goals and objectives, and also can provide insight into the processes of formulating goals and objectives and to assess their usefulness in curriculum construction. Chapman, writing in the realm of art, shares opinions similar to those of Tyler and Zais. She points out that goals in art education should reflect the nature of

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[1]R. Tyler, Basic Principles of Curriculum and Instruction (The University of Chicago Press, Chicago and London, 1949), p. 5.

[2]R. Zais, Curriculum Principles and Foundations (Thomas Y. Crowell Company, Inc., Harper and Row, Publishers, New York, 1976) p. 38.

the society and should focus on subject matter and learning experiences.[3]

Concerning the selection of educational objectives, Zais and Tyler wrote that choices should be guided by the philosophy of education and the nature of mankind. More precisely, Tyler wrote that any educational objectives formulated should be screened with the school's educational and social philosophy in mind. The objectives would then be more likely to meet the values stated in the school's philosophy.[4]

Zais observed that the totality of nature and human phenomena is complex and that basic philosophical assumptions influence human judgment. On this basis, he advises curriculum developers to consider seriously the nature of mankind and its realities, and the nature of knowledge in designing the school curriculum. Zais also presented three traditional philosophical categories which he considered as having particular reference to curriculum decision making. These are:

Ontology: the nature of reality

Epistemology: the nature of knowledge

Axiology: the nature of value.[5]

Educational content. The selection of the content of education

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[3]L. Chapman, Approaches to Art in Education (Harcourt-Brace Jovanovich, Inc., New York, 1978) p. 118.

[4]Tyler, pp. 34-35.

[5]Zais, p. 106.

cannot be isolated from the objectives the school seeks to attain. More precisely, Tyler explained that good and clear objectives include both the behavioral and the content aspects of the objectives. He added that the most useful criteria for selecting content, suggesting learning activities, and deciding on what teaching procedure to follow are attained when one defines the desired educational results.[6]

According to Chapman, sources of artistic inspiration should derive from similarities among individual experiences of students, the variety of sources that inspire artists generally, the school's natural environment, and the cultural art forms in the society. Furthermore, art content should include types of qualities, objects, images, and ideas that facilitate the production of art works. She also suggested that the content of the art curriculum should be sufficiently flexible to permit utilization of the various options available.[7]

According to Dorn, the Aesthetic Education Project developed and guided by Manuel Barkan and assisted by Cathy Bloom, in the late 1960s initiated an influencial activity and effective suggestions for the contents of an art program which seemed to be reasonably wide in scope and flexible enough. Three domains of art curriculum plan were suggested by Barkan. These include:

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[6]Tyler, pp. 47,62.

[7]Chapman, pp. 123,367.

1. The Production

2. The Historical

3. The Critical

From Dorn's report, by the late 1960s, Barkan's prediction of a new revolution in art curriculum contents and teaching became a reality. He stated:

> Art educators seemed unanimously convinced that art was a discipline with a definite content and a set of teachable behaviors which could be inferred through the models provided by the artist, the critic and the historian.8

Zais makes reference to Hyman's definition of content as knowledge, skills, processes, and values. According to Hyman, skills and processes include academic subjects such as reading, writing, calculating.[9] Zais goes on to advise curriculum planners to select the content that is most effective and efficient in achieving the aims, goals and objectives of the curriculum.[10]

Learning experiences. Tyler believes that, "learning takes place through the active behavior of the student; it is what he does that he learns." For this reason students should be given the opportunity to practice the types of behaviors implied in the objectives. The general principles Tyler considered to be important when selecting learning experiences were that they should:

1. Be pleasant to the students involved

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[8]C. Dorn, "The Silent Seventies?" Art Education, 1972, pp. 23-28.

[9]R. Hyman, Approaches in Curriculum (Prentice-Hall, Englewood Cliffs, N.J., 1973), p. 4.

[10]Zais, p. 324.

2. Provide satisfaction

3. Involve the types of behavior that are within the range of possibility for students

4. Provide a wide range of experiences for attaining a particular objective

5. Provide experience that can bring about several outcomes.[11]

Zais expresses a point of view similar to Tyler's, namely that learning experiences serve as the means for achieving stated objectives. He also notes that learning activities influence and shape the learner's experience and consequently his education.[12]

Chapman also wrote that a carefully developed curriculum plan produces additional desirable outcomes and learning experiences. Students learn to generate their own ideas for art through observations and self-expression.[13]

Evaluation. According to Zais, evaluation of students' achievement and of the program generally, is an integral part of an academic program. He goes on to suggest two types of evaluation as a component of curriculum planning. The first type is product evaluation which deals with student achievement. The second type of evaluation is comprehensive evaluation, which emphasizes the correspondence between the stated objectives and curriculum contents, as well as an evaluation of the objectives themselves.

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[11]Tyler, pp. 63-82.

[12]Zais, p. 350

[13]Chapman, p. 367

Tyler believes that there is need to embark on an evaluation plan for a teaching program while it is still in developing stages if evaluation is to contribute significantly to its development. Tyler considers criteria for the organization of learning experiences as a preliminary form of evaluation of these experiences. He refers to this as intermediate stages of evaluation. He explains the processes of evaluation as a way to identify the strengths and weaknesses of a plan, thus, revealing the quality of a curriculum program and aspects that need to be improved.[14]

The Tylerian goal-based evaluation is intended to determine the extent to which educational objectives are being achieved by the program and whether or not the goals are suitable.

"Formative evaluation" according to Tyler, is a term coined by Michael Scriven to distinguish between evaluation performed during the developmental stages of a program. Evaluation performed after the completion of a program is called, "summative evaluation."[15,16,17]

Chapman indicates that formative or "process" evaluation will facilitate a broad-based instructional program in art and will help

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[14]Tyler, p. 104.

[15]M. Cambre, "Historical Overview of Formative Evaluation of Instructional Media Products" (ECTJ Annual Review Paper, No. 1, Vol. 29) pp. 3-25.

[16]B. Worthern and J. Sanders, Educational Evaluation: Theory and Practice (Wadsworth Publishing Co., Inc., Belmont, CA, 1973).

[17]Zais, pp. 381-382.

to promote more systematic and constructive approaches to designing activities for effective classroom instruction. It will also help in generating more constructive judgments regarding the intellectual integrity of the program such as a consideration of the general framing of art activities, the sequence, depth and breadth, spontaneity, flexibility, and openness of the selected learning experiences.[18]

Many curriculum specialists believe that the evaluation plan for a teaching program should include summative or "product" evaluation conducted to obtain a comprehensive assessment of the quality of the completed program and to provide a terminal judgment on the curriculum generally. Both formative and summative evaluation are considered necessary in promoting and sustaining the quality of an academic program. However, it is believed that formative evaluation is a more useful tool for curriculum development purposes, and makes evaluation an important component in curriculum development.

Chapman wrote that the need for evaluating a teaching program is emphasized by the fact that, conditions that shape the quality of classroom teaching and learning include the teaching act itself. She mentioned that if an art program is carefully woven and well constructed, and if it is soundly defined, a teacher should be able to communicate art concepts which are both academically sound and factually accurate.

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[18]Chapman, p. 383.

Chapman also stated that evaluation of an art program at its developing stages will enable a reasonable judgment of its adequacy (merit, worth or value) to be made prior to its implementation.

Most curriculum literature indicates that evaluation of academic programs have been focused too exclusively on students achievement, often in connection with examinations and grading. Curriculum specialists often have argued against this practice and supported a more broad-based concept of evaluation which examines all aspects of a program. Some of the writers expressing these views include: Tyler, Zais, Chapman, Clark & Zimmerman, and Eisner who see evaluation of an academic program as a comprehensive procedure which helps (1) to determine the program's adequacy and effectiveness, and (2) to address all important questions that may arise during the evaluation process.

In support of a comprehensive evaluation system, Chapman emphasized that the success of an art program is determined by various factors surrounding the program. These include:

1. The actual teaching procedure
2. The environmental conditions in which students learn
3. The teachers' skills
4. The learning resourses, or art materials available.

Chapman emphasized that, these factors, and other educational problems can only be addressed effectively if a comprehensive evaluation approach is used in evaluation of an art program.

Tylerian goal-based evaluation. According to Tyler, evalua - tion should be a process of determining the extent to which specified objectives are being realized by the program. Tyler also believes that, at least two appraisals are needed in making a given educational evaluation. Chapman holds a similar point of view and suggested that evaluation of an art program should focus on the degree to which goals are attained. She stated that:

> An art program is effective if children are achieving the goals that have been outlined for them. However, it is essential to examine whether the stated goals of the program are in themselves sound and appropriate.[19]

In addition Chapman developed several criteria for goal-based evaluation of an art program. She outlined categories and listed questions that may be used for examining each of the categories outlined. Guideline for the goal-based evaluation of an art program include questions designed to help one evaluate relevant topics. These are:

A. Evaluation of Program Goals.

Questions:

1. Are the goals intellectually sound?
2. Are the goals consistent with the aims of the general public education in a democratic society?
3. Do the goals focus on general patterns of behavior that will enable youngsters to comprehend a wide range of experiences and situations?
4. Are the goals capable of being achieved by educational processes and the resources of the school?

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[19]Chapman, p. 385.

5. Is formal education essential for most children to achieve the goals?

B. Evaluation of the Proposed Means for Achieving Goals Including Classroom Activities and Approaches to the Study of Art.

Questions:

1. Are the proposed means related to the behavior described in the goals.

2. Are the proposed means related to the content described in the goals?

3. Are the proposed means likely to serve more than one goal?

C. Evaluation of Resources.

The quality of teaching and learning art is also determined by availability of resources, which may be classified broadly as ideological, psychological, financial, and physical.

Questions:

1. Are the ideological resources for effective art instruction visible and appropriate?

2. Are the psychological resources for effective art instruction visible and appropriate?

3. Are the financial resources of the art program adequate and appropriately allocated?

4. Are the physical resources adequate and appropriate?

D. Evaluation of Teaching.

Criteria for evaluating teaching may include the following:

Questions:

1. Does the teacher communicate concepts about art that are fundamentally sound and accurate?

2. Does the teacher treat each student as an individual whose worth is not exclusively defined by excellent performance in art?

3. Does the teacher encourage patterns of behavior that lead to self-directed and life long learning in art?

4. Does the teacher demonstrate the ability to discern what is essential and what is peripheral in fostering students' growth?

5. Does the teacher exhibit skill in teaching for multiple goals?

6. Does the teacher behave humanistically?

E. Evaluation of Learning.

Evaluation of student achievement, as noted earlier, is commonly known as product evaluation and often connected with examinations and the assigning of grades, is either generally considered to be an inseparable part of instruction or is a special formal evaluation exercise conducted by an outside evaluator.

For purpose of evaluating students learning, Chapman listed both factors that may be considered and categories that can be developed. She suggests that a guideline for obtaining a record of performance may be developed. Also she proposed various sources of information. These may include:

1. Portfolios of students' art works.

2. Photographs of perishable works such as ceramics and sculptural works like wood carvings, etc.

3. Tape recordings of students creative experiences and criticism of methods, techniques and other approaches.

4. Video tapes of working students and their discussions about their works.

5. Sign-up sheets for checking out art materials.

6. A record of individual students performance in tests and examinations.

7. A summary report card on which judgments are made of student growth, based on an overall impression rather than on isolated behavior.[20]

To summarize, this chapter reviewed fundamental elements of curriculum organization which provided a basis for developing a curriculum plan.

The curricula writings of Tyler, Zais, and Chapman revealed four major fundamental elements which ought to be considered in developing a curriculum plan. They advised curriculum developers to identify educational purposes, the content of instruction, learning experiences and evaluation when planning an academic program.

Tyler suggested that sources of educational objectives should include studies of learners themselves, studies of contemporary life outside the school, studies and objectives of subject specialists as well as the use of philosophy, and psychology of learning in selecting objectives. Zais proposed that sources of educational objectives should be categorized into three major groups: empirical, philosophical and subject matter. Likewise, Chapman suggested that the goals in art education should reflect the nature of the society, thus, focusing on learning experiences and subject matter.

These authors also pointed out that the criteria for selecting educational content are attained when one defines the desired educational purposes. In addition, Dorn made a report on the three

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[20]Chapman, pp. 384-407.

domains of art curriculum plan which he considered as being flexible enough to permit utilization of the various options available in selecting contents in the field of art education. These are: the production, the historical and the critical.

Tyler, Zais, and Chapman are also in agreement on the subject of learning experiences. They believe that learning experiences serve as a means for achieving stated objectives, therefore, students should be given the opportunity to practice the types of behavior implied in the objectives.

They also suggested that evaluation should be performed during the developmental stages of a program and after the program is completed. This will enable curriculum planners to determine the extent to which educational objectives are being achieved by the program, and to assess the suitability of the outlined goals. Product evaluation is also conducted to obtain a comprehensive assessment of the quality of the completed program and to provide a terminal judgment on the curriculum generally.

Chapter V

CRITERIA FOR DEVELOPING A CURRICULUM MODEL

INTRODUCTION

This chapter provides the background information prerequisite to the development of a textile curriculum model for Nigerian higher education institutions. It illustrates how the concepts introduced in the earlier chapters can serve as a suitable basis for curriculum development. The discussion which follows is focused on four major areas of the curriculum building process and on the introduction of these elements into instructional programs concerned with textiles. The fundamental elements of curriculum organization that are vital in the design of a teaching program include the following:

1. Educational purposes: objectives, needs, goals, and values.
2. The content of instruction.
3. Learning experiences compatible with purposes and content.
4. Evaluation.

CURRICULUM PURPOSES

Educational purposes vary, at least to some extent, because they are affected by such factors as: the age and background of the student population, teachers, the school program and policies, community values and needs, and the nature of the society and its culture.

This portion of the study deals with the selection, examination, and organization of curriculum purposes. This phase of the enquiry was developed in order to determine the appropriateness of educational

purposes and to suggest the insights into the processes by which they are formulated and screened. In addition, this section of the study will provide a basis for assessing and evaluating educational purposes in curriculum building.

Sources from which educational purposes are extracted, examined, and screened are grouped into three categories. These are: empirical sources, subject matter, and philosophical sources. These sources, as noted earlier, have been derived from the literature produced by recognized authorities. They are deemed to be appropriate bases for clarifying curriculum purposes.

The empirical sources. Empirical sources are those which have been derived from studies of individual learners' needs as well as from studies of the needs of the larger society. They subsume studies of people within the learners' community and culture, their home environment, parents, friends, peers, teachers, and so on. The basic, inherent needs of individual learners provide a solid basis on which to develop curriculum objectives since, with this focus, the learner becomes the center of educational activity. The goals of a program should, therefore, be aimed at promoting a smooth transition through various developmental stages and the effective processing of the individual learner's personal understandings and academic relationships. It also should aim at educating the individual in those areas required for successful functioning in life within the school environment and the society in general.

For a program to have real meaning for students, it ought to be experienced as a basic form of expression and as a response to life.

Therefore, learners should be motivated by the need to understand how their lives can be enriched by the program. However, their needs must first be determined in order to provide curriculum planners with a source of purpose as they go about their work.

Furthermore, in order to train learners to offer effective services to their society, the basic needs and values of the larger society should also be utilized in order to provide a strong basis in terms of which curriculum objectives can be developed. For a textile program to be consistent with the objectives of Nigerian education as suggested by members of the Nigerian Curriculum Conference of 1969 and by various other Nigerians as stated in Chapter One, the goals of the program should be focused on the following areas.

First, on developing the learner's knowledge geared towards promoting his personal fulfillment in life and long term self-directedness in working with textiles. Second, it should be focused on transmitting the values of his people and of their cultural heritage. Third, it should provide him with the type of knowledge that best will serve his society effectively and that will enhance his social consciousness. Fourth, it should extend learners' knowledge by equipping them with current techniques, methods, and processes of textile production as practiced in other countries.

Although the artistic heritage is a significant part of the general cultural heritage, it cannot have personal meaning to learners unless it has some connections with these learners' own personal lives. The basic fact is that artists tend to develop and use imaginative ideas for art works from their own life experiences. As appropriate, those

who are not mere copistes interpret ideas in visual forms and use colors to capture and to express intent and feeling. Thus, a learner's life-styles, experiences, background, culture, and society should provide various links which are associated with his current needs and facilitate his understanding and interpretation of new ideas presented to him in the classroom.

Subject matter sources. When subject matter is the main focus of curriculum objectives, there is a tendency for long range aims to be related to the instilling of professional expertise. Nevertheless, the main subject studied can be approached in such ways as will increase the learner's general knowledge.

In addition, subject matter can be defined in terms of the types of behavior which the learner presumably should attain. In textiles for instance there might be a tendency for the subject matter to focus primarily on techniques, methods, and processes of production. However, activities conducted in textiles also can be geared towards providing the learner with a broad-based knowledge aimed at achieving the outlined goals. For instance art activities conducted in the realm of textiles can be directed towards learning techniques, methods, and processes that can help learners to achieve such goals as self expression, creativity, and fluent communication.

Philosophical concepts. These also have a great deal to contribute to the clarity with which substantive curriculum issues can be formulated and resolved. A grasp of psychological concepts has much to offer in the way of improving as well as in creating an understanding of curriculum phenomena. The unique aspects of human

nature which control the individual's state of mind and behavior, and which determine one's needs and values, should therefore serve as a focus in curriculum planning. These peculiar aspects include certain assumptions about life. For instance, due to fundamental philosophy, we tend to believe whatever our culture tells us to believe. Thus what we accept as real actually becomes real to us. In short, human life is significantly affected by an individual's assumed notions of reality.

This peculiarity of human nature is prevalent in all people and in societies all over the world and it controls a human's state of mind. The various things we believe in have tremendous impact on our lives--on our existence, our survival and success--thus our interpretation of our existence resides in our perception.

It should be evident from the above statements that before undertaking any aspect of curriculum work a curriculum designer must attempt to determine and to understand the basic beliefs and assumptions of his people. In addition the articles of faith supported by a given culture should also be studied since the basic questions about life have reference to realms of existence. Therefore decisions regarding the desired life outcomes are most effectively determined by bringing philosophical reflection to bear on existing conditions.

CONTENT OF INSTRUCTION

The component of content, in curriculum development, refers to the substantive material contained in a body of subject matter or in the implied content presented in a specific area of study. One of

the special functions of a textile curriculum is to facilitate the selection, arrangement, and sequencing of subject matters or art activities in ways that will help learners to achieve the educational purposes sought and in order to help insure a smooth and effective transmission of the desirable knowledge. In addition, valid and reliable curriculum purposes also provide some direction in the task of selecting and arranging content of instruction in a specific learning situation.

In selecting the content of instruction in textiles, the three domains of curriculum planning derived from the literature and deemed appropriate and acceptable are: (1) the production domain, (2) the historical domain, and (3) the critical domain.

The production area includes the study of all textile components, such as textile design, woven, printed, and dyed textiles as well as the methods, techniques, and processes which are involved. It also includes the study of materials and equipment used in producing textile works. The historical part of textiles includes the history of fabric art. The critical involves a criticism and appreciation of textile works, and should serve to help learners understand both the process of arriving at critical judgment and the criteria by which art works are judged and appreciated.

In outlining content in textiles it is advantageous to plan for cross references between the outcomes of what is done in schools and the types of work done in the community and in the society as well as some knowledge of what people are doing with textiles in other societies.

This type of approach should provide learners with a broad understanding of textiles in general and help them to develop both an awareness of and appreciation for traditional and contemporary textiles.

It is therefore important to adopt certain aspects of the traditional textiles and incorporate them into the contemporary modes of fabric art and also to incorporate important aspects of foreign textiles that might enhance Nigerian textiles.

SEQUENCE IN TEXTILES

It is important for the sequence of a textile program to be thought of as analogous to a ladder, with every unit of an activity in the ladder serving as a prerequisite to the ones that follow. This approach provides a better background for inexperienced textile students who need to develop both a greater understanding of textile methods and of techniques by learning through a simple-to-complex process. It will also enable learners gradually to gain more insights and to expand their knowledge of the field of textiles.

In addition, the sequence of varied approaches to textile activities should be logical with respect to both the quality and the quantity of work with which learners can cope in a reasonable amount of time. In other words, textile activities should be presented logically with respect to a suitable scope and sequence with regard to the subject matter being studied. Units of activities can be carefully organized in unique ways by individual learners in a given location in order to achieve satisfactory results.

Units of activities should not be based on prior assumptions about what learners know. Instead they should be aimed at imparting new knowledge to learners. Exposure during a number of teaching sessions that focus on specific content areas and concentration on sufficient practice exercises should serve to increase learners' understanding of the diverse new ideas presented to them. In addition, a step by step systematic approach can be employed in delivering a body of information to learners. To be more explicit, the program for each class should be designed with reference to the contents or activities conducted in the previous class, then gradually introduce new concepts and levels of complexity as learners begin to understand and relate the previous knowledge to current concepts which are acquired as they progress from simple to complex processes.

Since people often learn at different rates, it is appropriate to consider the individual student's learning needs in order to assist each of them to become inner-directed and to develop sound value systems which enable them to choose and direct their own activities.

LEARNING EXPERIENCES

The term "learning experiences" refers to the way the learner perceives events and consequently interacts and responds in desirable ways to conditions which exist in his environment. Learning experiences serve as a means for achieving most educational objectives and are shaped by the educational content selected to facilitate

given learning activities. Educational experiences can be provided by selecting and setting up specific activities which seem likely to provide opportunities for learners to practice desired types of behavior including textile-related skills. Certain experiences often may bring about multiple outcomes. In textiles for instance, a student can learn to generate his own ideas for designing and producing textile works as a result of numerous activities conducted in class, through observation, and through self-expression.

EVALUATION

Curriculum specialists for a number of years have emphasized the need to embark on a plan for evaluating a teaching program while it is still both in its developing stages and also after it is completed in order to promote and sustain the quality of the program. They also indicate that evaluation of academic programs should not focus too exclusively on student achievement based primarily or entirely on examinations and grading. These factors should be taken into consideration in designing an evaluation plan for a textile curriculum. To summarize, the following criteria outlined by curriculum specialists can be used in evaluating topics relevant to working with textiles:

1. The program goals are appropriate
2. Proposed means of achieving goals are effective and reliable
3. Teaching and learning resources are suitable
4. Teaching is the object of study and appraisal
5. Students' achievement in producing quality materials and in exercising desirable personal behavior in being assessed.

In the next section of this chapter, the writer presents an outline of a proposed four year teaching program in textiles. The curriculum program incorporates both the traditional and the contemporary modes of creating textiles. Concepts of traditional textile are drawn from the various components and methods of textile production as practiced in the Nigerian society while the contemporary textiles are based on what are deemed to be suitable classroom methods, techniques, and processes as practiced both in Nigeria and other parts of the world. Furthermore, the organization and arrangement of the content of instruction and proposed learning activities are based on the three domains of curriculum plan derived from the literature and presented earlier in Chapter IV.

AN OUTLINE FOR A FOUR YEAR CURRICULUM MODEL IN TEXTILES

Introduction. This section is concerned with the development of an outline for a four year curriculum model, incorporating both traditional and contemporary modes of textile production. Information collected from several sources was synthesized and used as a base for developing the outline. These include:

1. Textile programs developed at American art institutions and in four Nigerian universities that offer courses in textiles.
2. A review of the literature pertaining to traditional textiles in Nigeria.
3. Techniques, methods, processes, and current practices

involving work with textiles at higher education as indicated in appropriate source materials.

4. Fundamental elements of program organization as reflected in curriculum literature.

The three domains of the art curriculum suggested by Barkan were instrumental in developing this study. They served as the main categories under which the contents were examined and organized. The domains include the following: the production, the historical, and the critical.

Subject areas categorized under the production include the various techniques, methods, and processes of manufacturing and decorating textiles such as: designing, printing, resist methods, direct methods, traditional techniques and weaving.

The historical domain included the history of the traditional textiles as well as current events which had a bearing on given communities and on the nation as a whole. It also reviewed the history of textiles in Europe, Asia, Africa, and the Americas.

The critical domain involved criticism and appreciation of textile works including Nigerian traditional textiles, works done by textile students, and slides or fabrics produced in nations outside Nigeria.

FIRST YEAR FOUNDATION COURSES

The first year courses are assumed to be foundational in nature and include production, history, criticism, and appreciation. Each

is considered in turn.

Textile production: This segment of the proposed curriculum involves an introduction to the names and the uses of both the basic traditional and the contemporary textile materials. Here are introduced the basic instruments for designing, painting, printing, weaving, and the resist methods along with tools and media such as crayons, brushes, and drawing instruments.

A study of vocabulary and terms used in teaching the major textile components also is included. Here, for example, in designing, essential words and terms might include design networks, motif, repeat, design unit, rhythm, grid, positive and negative space, and placement.

Elements of design include: color, intensity, value, shape, line, and texture. Principles of design are: balance, rhythm, space, complexity, gradation, repetition, and contrast.

The historical: Traditional textiles from the ninth century to the nineteenth century include preliminary courses in the history of Nigerian traditional textiles, surveying major components, methods, techniques, styles, dates, origin and the uses of traditional textiles in society.

Criticism and appreciation include approaches to looking at textile works through: description, analyzing, interpreting, and judging textile works in order to foster cognitive and perceptual skills, and to develop the understanding and critical textile skills in order to categorize and examine works effectively during the

subsequent years.

SECOND YEAR COURSES

The second year courses have been designed to provide learners with the basic techniques, methods, and processes of textile decoration and production. In addition, a historical survey of traditional textiles is designed to enhance learners' understanding of the background and origin of Nigerian textiles and to facilitate their grasp of methods of criticism and appreciation of textile works.

Production. Textile design, woven, printed, dyed and other fabric decoration methods include (1) introduction to design methods and repeats: half drop, triangle, hexagon, scale, diamond, ogee and circle; (2) encouragement of a search for design ideas and motifs from various sources including patterns on traditional and industrial textiles, scenes, and activities in the society; (3) the skills of designing for weaving; (4) the study of contemporary and traditional fibers, yarns and warp preparation; (5) experimentation with traditional loom construction--the horizontal loom and the vertical loom; (7) experience in using small silk screens for relief printing or for direct methods such as yam and potato printing, lino cuts, canning, painting with rollers or cotton balls, medicine droppers, oil cans, plastic squeeze bottles, spray bottles, gathering and dripping, and brush painting; (8) studies of traditional dyes and pigments; (9) introduction to the basic tie-dye tools, methods, and techniques, including experimenting with simple circular and

linear shapes; (10) designing for batik, and experimenting with tools and batik one color wax resist.

Historical backgrounds. Traditional textiles from the 19th century to the early 20th century are the foci here. These encompass a survey of Nigerian traditional textiles, composed of the major components; techniques, styles, methods and their use as well as dates when fibers, yarns, dyes, weaving, and stencilling presumably originated.

Criticism and appreciation. An introduction to procedures for abstracting information from textile works by identifying qualities to look for appears here. This subsumes such items as literal qualities--emphasize accurate depiction of subject matter; visual qualities--emphasize the outlook of the work or what the work imitates; expressive qualities--the emotional and imaginative significance of the work; to aid learners to attain access to extensive array of aesthetic categories to acquire more discriminate categorization to be applied in evaluating traditional textile works.

THIRD YEAR COURSES

The third year courses are both extensive and comprehensive in nature and are aimed at providing learners with advanced and broad base knowledge in the field of fabric art in general. Content includes the history of textiles in other lands as well as criticism and appreciation of textile works done in the countries being studied.

Textile production. Textile design includes woven, printed, dyed, and some traditional methods. Among them are: (1) color studies for traditional dyes, vat dyes, and printing pigments; (2) color separation for printing and dyeing; (3) extensive designing for the various textile components; (4) exploration of design in traditional textiles, a study of some tribal insignia, and how they can be used in designing; (5) introduction to traditional and contemporary inlay pattern weaving and exploration of two and three dimensional composition, processes of making rug, applique, and embroidery; and (6) studies of advanced loom techniques such as weaving lengths of narrow strips of cloth on a horizontal loom, embellishment of cloth woven on the vertical loom and patterning by means of holes, weft bands decoration, warp stripes, and the web texture.

Introduction to the more advanced printing processes of block printing, stencilling, screen printing, stencil printing, liquid block out stencils, photographic stencils, photo emulsion stencils, photographic film stencils and direct methods also are included. Other traditional textile methods such as printed work, applique, patchwork, embroidery, drawn-work, and stencilling are studied, too. Also recommended are experiments with the starch resist method, and tie-dye methods: folding, sewing, tieing, pleating and batik composing, the uses of brushes, tjauntings, wax scraper and the processes, methods and techniques of wax resist.

Historical backgrounds. Textiles of Asia, Europe, Africa and the Americas from the early periods to the early 20th century are studied and a survey is made of major textile components, methods, techniques, styles, values, dates, and origin of the components.

Criticism and appreciation. This focuses on internal cues in art works: analyzing, categorizing, examining textiles done by students and those done in other countries in Europe, Africa, and the Americas using categories identified in the second year. These are: literal qualities, visual qualities, and expressive qualities. Art history is of value at this point for assessing the validity of decisions made during and after criticism.

FOURTH YEAR COURSES

The fourth year courses are geared towards helping students to develop their unique personal styles of producing textile works. They are focused on self-directedness and creativity. They also include an expanded historical survey of the current practices in textiles as well as advanced methods of criticism and appreciation.

The production. Advanced work is done with design, printed, woven, and dyed textiles and consists of (1) studies of color, dye paste, vat dyes, traditional and natural dyes. This is followed by extensive work on designing and color separation for printing, resist methods, and direct methods; (2) creative patterns in applique, inlay, tapestry, rug, embroidery, patchwork, painted work, printed and resist methods; (3) creative patterns in weaving

and studies of yarns and advanced weaving techniques; (4) a focus on creativity, flexibility, self-expression, individualism and originality, to emphasize uniqueness and possibly specializing in one major area, leading to a self directed intensive study in a selected area.

The historical. Twentieth century textiles of Asia, Europe, the Americas, and Africa, including Nigeria, from the 1960s to the 1980s are studied. A survey in depth is made of major components, techniques, styles, methods, dates, and origin of textiles of Asia, Europe, the Americas, and Africa.

Criticism and appreciation. Describing, comparing, analyzing, and interpreting the 20th century textiles of Africa, Asia, Europe, and the Americas, searching for their literal qualities, visual qualities, and expressive qualities comprises the work at their advanced level.

The following section consists of a sample lesson in design drawn from the outline provided. It is presented as an example of how a curriculum might be implemented. The precise interpretation of the model often will depend on individual program developers, the institution and the facilities available. The sample lesson in design which follows is developed according to curriculum specifications as suggested by authorities on the subject in Chapter IV.

A SAMPLE LESSON IN DESIGN

Introduction. The sample lesson is designed to engage learners in textile activities which serve to introduce them to various art forms and subject matter related to these textiles. Furthermore, it is aimed at developing learners' creativity, skills, and techniques involving various fabrics and also to demonstrate how learners' lives and cultures can serve as a significant source of inspiration for textile activities.

The sample lesson is presented in the form of an outline and illustrates how a typical textile lesson might be conducted with due regard for curriculum specifications. It is selected as a representative example of textile lessons based on design methods and it is concerned primarily with the structure of patterns. Reference to design and color is not emphasized in this outline since these require more extensive study, hence cannot be covered effectively in a single lesson. Also, work related to design and color presumably would be covered much earlier on in the program. In other words, the sample lesson assumes that learners already have acquired a broad base of knowledge in those areas.

SUBJECT MATTER: DESIGN NETWORKS

Background. Ideas developed for textile design serve to provide an initial sense of direction for students and are usually arrived at in different ways by different people. Some people apparently incubate ideas slowly while others find a source of

inspiration more rapidly. Still others are able to create textile designs after gaining sudden insight. In any case, it is the teacher's responsibility--insofar as possible--to provide learners with adequate motivation, guidance, and inspirations as needed. This helps students to learn to generate their own ideas more effectively. Inspiration may come from many sources: previous experiences or from inner existence ideas, dreams, fantasies, and the realities of life. Subject matter which derives from these ordinary life experiences offers numerous opportunities for creative textile designs and also can become an effective form of communicating and sharing experiences.

General points to consider in planning a design for the networks are:

(1) To work with shape rather than line. Too much line tends to splinter the image when the motif is repeated.

(2) To consider the positive and negative part of the motif as two distinct and simple images. Each should be a strong dynamic shape which can function on its own as well as in combination.

(3) To recognize that positive and negative shapes should each occupy about 50 percent of the motif area. This is a factor in figure-ground reversal, which increases the versatility of the motif.

(4) To use an asymmetrical and directional image.

(5) To note that a change of scale within the motif is exciting.

(6) To maintain one edge or corner to help with registration.

(7) To use tracing paper to test your motif in repeat. Rotate the motif, matching different edges. It should be versatile enough to work in many combinations. Use positive and negative shapes together and separately.

(8) To devise "hook-ups" where shapes within the motif meet each other when the motif is repeated. It is possible and often desirable to design hoof-ups that disguise the outline of the motif. In repeat, the internal shapes combine to form a new shape, which crosses the edge of the motif making it (the edge) less obvious.

Goals for the lesson. A variety of goals for the lesson suggested above can be identified. They include:

(1) To gain knowledge and understanding of the processes, methods, techniques and the principles of pattern structure.

(2) To draw aspirations from traditional textiles.

(3) To increase awareness of design methods and pattern structures and techniques available within the school environment and the society as well as in the other cultures.

(4) To develop creativity.

(5) To develop awareness and appreciation of both traditional and contemporary textiles.

PLANNING LESSON LAYOUTS

Various suggestions can be made with respect to planning lessons

in design. Instructors are likely to find the following procedures helpful ones.

Reading assignments: Prior reading assignments should be designated to increase the efficiency of the capacities of learners to absorb, relate, and to process new information. To present unfamiliar subject matter effectively, it usually is essential to increase the stability and clarity of the learners' prior knowledge; i.e., to strengthen their cognitive structure in order to facilitate their acquisition and retention of the new information.

References. The following references are readable and useful.

Kaufman, Glen. Design on Fabrics. Litton Educational Publishing Inc., 1967.

Graves, Maitland. The Art of Color and Design. New York: McGraw-Hill Book Company, Inc., 1951.

Proctor, Richard. The Principles of Pattern: For Craftmen and Designers. New York: Van Nostrand Reinhold Company, 1969.

Day, Lewis. Pattern Design. 2nd ed. Rev. by Amor Fenn. London: B. T. Batsford, 1933.

Justema, William. The Pleasures of Pattern. New York: Reinhold 1968.

Points to keep in mind when using references.

(1) List names of design networks.

(2) Compare information given on each design method by the different authors for differences and similarities.

(3) Briefly annotate the bibliography.

Instructional strategies. Units of instruction can be delivered through such means as discussions, lectures, and demonstrations.

Students can be expected to learn from these three strategies of instruction in the following ways.

From discussions:

(1) What they and other learners have acquired from their readings.

(2) Problems encountered while doing the reading assignment.

(3) What the main components of the design networks are.

(4) How to replicate methods reported in the literature.

From lectures:

(1) Concepts such as the importance of repeats in textiles.

(2) The types of repeats methods used by traditional designers, industries, and other cultures, showing examples of each.

(3) The effect of each repeat method on the design and the patterns formed by each of the methods.

(4) The advantages and disadvantages of each method in designing and in producing fabrics.

(5) The types of patterns created by each repeat method; i.e., how the design flows over the entire area, thus, creating certain patterns such as spotted, all over patterns, and so on.

(6) How rhythm is achieved.

From demonstration:

(1) A more specific introduction to the vocabulary of pattern formation than lectures can provide.

(2) A familiarity with the basic terms used in pattern descriptions. Some of the relevant terms listed below have been defined in an earlier section on the definition of terms: grid, motif, net lines, repeats, placement, interval, network, negative space, positive space, unit.

Basic items often needed when introducing students to materials and equipment:

(1) A large white drawing paper, 24" x 36".

(2) Lead pencils.

(3) Erasers.

(4) A 2" square design worked out on graph paper.

(5) Tracing paper.

(6) A ruler (approximately 24 inches long).

(7) Masking tape.

(8) A large drawing board and thumb tacks.

Instructional procedures should include: Construction of various net lines/grids for repetition of units at regular measured intervals--square, half-drop, triangle, hexagon, brick, diamond, ogee, and scale.

Students may be asked, when they are introduced to materials, to plan a basic design unit or motif, repeat design motif within the grids, or paint in two colors, one for the negative and the other for the positive areas.

Motivating students. Motivation often can be created through the use of slides and visitation. Two readily available major sources

of teacher-made slides to be projected may include:

(1) Works found in local stores, manufactured by textile industries within the country.

(2) Works of previous textile students, or those in higher classes.

(3) Works manufactured in other countries.

(4) Traditional textiles.

Visits permit students to observe traditional works in progress in a given society. It is often helpful to visit a textile industry to watch designers perform their art. Also, it is helpful to spend time watching students in the upper classes do their designing and production.

Scheduling time for practice in the classroom is obviously a useful tactic. Give assignments such as constructing a two color design based on some type of Islamic design concepts: geometric shapes, animals, and crawling things such as lizards or scorpions.

Measurement. The dimensions of a motif created by students might be two inches square or any measurement considered appropriate. The method involves the construction of 2" square grids for a total of 16 networks for each of the design method. Then proceed as follows:

(1) Mark all the four sides of the design planned earlier, with letters or numbers.

(2) Also mark the sides of each grid lightly with numbers or

letters to match the 2" square design motif.

(3) Trace the design motif into the networks carefully matching the numbers marked on the sides.

(4) Construct more networks and practice tracing the same motif into the networks, rotating them and joining different sides of the motif. The basic unit may be repeated in a number of ways to arrive at any suitable variations for the motif and to become familiar with the repeat methods.

(5) Use two colors in painting, one for the negative and one for the positive areas.

After the concepts of pattern formation are fully understood, a more specific project should be given for further practice and to increase learners understanding of the new concepts presented to them. Special attention must be given to those individual learners who might need extra help to assist each of them to understand the processes of pattern formation.

Project: Construct a design from any simple motif found on a traditional Hausa embroidered gown.

Procedure: Same as in the demonstration and the practice exercises.

Display: Display the finished works and discuss them critically to determine:

(1) If the technique or process is fully understood.

(2) The effect of the different networks on the motif.

(3) Differences and similarities in the patterns resulting

from the different repeat methods used.

(4) The most effective works and why they are successful.

(5) Point out areas that require extra practice.

(6) Consider whether the designs used are satisfactory in repeats by determining whether repetition of the basic unit creates a rhythmic flow over the entire designed area.

(7) Ask for students' opinions about works displayed, and about their individual experiences as well as problems they encountered while doing the assignment.

Learning experiences: Learning to generate personal ideas include sharing ideas with others, communicating with others, self-expression, and creative experiences.

Evaluation: Compare works done, with the goals of the lesson in an effort to obtain (1) a comprehensive assessment of the quality of the lesson, (2) the teaching procedure, and (3) learners' impression and reactions. Then evaluate students' achievements, considering the following: subject matter, technique (method and process), design ability, the general outlook (pattern and rhythm), execution; environmental conditions in which the lesson was conducted; and types of learning resources available for the lesson.

SUMMARY

Chapter V presented the criteria for developing a textile curriculum model for Nigerian higher education institutions, designed

according to curriculum specifications as suggested in Chapter IV. In addition, it presented an outline for a four year curriculum model which incorporates methods, techniques and processes of traditional and the contemporary textiles as reviewed in Chapter II and III of this study. Thereafter, a sample lesson in design was selected from the numerous activities suggested in the four year program and presented in a form of an outline to demonstrate how a typical textile lesson might be conducted.

Chapter VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

In Nigeria at present, emphasis is being placed on developing the major subject areas in a manner congruent with national goals, needs, and values. Thus, since independence was obtained from Great Britain in 1960, various standards have been suggested as guidelines to achieve excellence in all fields of education including art. These were aimed at outlining educational policies which are deemed suitable for the society.

Suggestions made by various people were screened at a portentous meeting of the Nigerian Curriculum Conference in 1969, a gathering of educational leaders who emphasized the need to link the Nigerian educational system to the values and needs of her peoples. An obvious opportunity to serve this end resided in the improvement of curriculum contents, format, and strategies in textiles. The intent of the present study, therefore, was to develop a textile curriculum model which at the university level was consistent with the educational policies developing in Nigeria. The objectives of the study provided a basis for: (1) a review of the literature focused on traditional textiles in Nigeria, (2) an examination of the methods, techniques, and processes involved in current practices in textiles, as indicated by the review of relevant publications, and (3) the application of current curriculum theory

to the development of a general instructional model.

Information collected from these three sources was synthesized and used as a base for designing the textile curriculum model. For purposes of clarity, the limitations of the study were stated and an extensive listing of definitions of the terms pertaining to the study was included in Chapter I.

In Chapter II, a review of the related literature focused on the historical development of the major concepts of traditional textile production in Nigeria. The major areas of fabric art, examined in this chapter included the following: (1) historical and traditional uses of textiles; (2) similarities and differences in textiles among the dominant ethnic groups; (3) major components of traditional textiles; (4) historical influence on contemporary textiles; and (5) major differences between the historical and the contemporary textiles.

Traditionally, Nigerian cloth has been used to serve various purposes. However, indigenous textiles serve mainly as articles of clothing. They are often used to meet specific needs in politics, economics, social and religious observances. Specific textiles are also used to shroud the dead and occasionally they are spread on the tombs of the dead. In addition, some traditional fabrics are used to clothe shrines.

Most traditional textiles in Nigeria reflect the cultural patterns of a society with diverse tribal roots. The obvious variations that exist among Nigeria's ethnic groups include:

(1) the materials and instrument used, (2) the types of designs and patterns imposed on the fabrics produced, (3) the dress styles or outfits common to specific ethnic groups, (4) the width of the woven strips of cloths vary from two to eleven inches, and (5) unlike the rest of the ethnic groups, in Hausa land, dyed textiles and embroidery are manufactured mainly by men. Despite extant differences, methods, and techniques of manufacturing and decorating fabric and the resources available for producing textiles are common across the dominant ethnic groups.

Major components of traditional textiles include fibers, dyed and woven textiles, embroidery, patchwork, applique, drawn and painted textiles. It has been impossible to name a date or place where these textile components first came into existence. However, authors on Nigerian traditional art and crafts have speculated that some of the textile methods together with some of the resources were used by the ancestors both of today's Nigerians and Africans generally before the 13th Century.

The earliest fibers used in fabric production probably were bast, bark, raffia. These are believed to have preceeded the use of cotton, silk, and wool which were earlier produced and processed locally as needed. Recently, commercial yarns are being used in addition to those produced locally.

In traditional weaving, the vertical and the horizontal looms are the major instruments utilized in producing woven fabric. In

the early times, the vertical loom was used by men for weaving raffia. However, it became the womens' tool after the horizontal loom was introduced.

At present the vertical loom is popular throughout Nigeria, particularly among the Yoruba, Igbirra, Nupe, Hausa, Ibo, and Tiv. Traditionally it provided the main source of clothing material for women.

Some of the recent textile processes, methods and techniques introduced within the last century include stencilling, silk-screening, drawnwork and elaborate embroidery. These processes are adopted from the commercial techniques of fabric production and are incorporated into the traditional textiles.

Chapter III presented information contained in the various textbooks and publications with a bearing on teaching textiles at higher education institutions particularly in Nigeria and in the United States. The basic methods, techniques and processes of textile manufacturing and decoration as reported in the literature by the authors studied are similar.

The basic topics reviewed are: (1) criteria of design, (2) design networks, (3) colors, (4) methods of textile decoration. The highlights of each of these subjects is as follows: the major design elements are line, shape, color, texture, space, direction, proportion and value. In designing, these elements are interrelated to provide principles of design. Thus, a combination of design elements create rythm, balance, and emphasis in a pattern.

The final decision regarding which method of textile decoration is most appropriate depend on the type of facilities available, the complexity of the planned design, the size of the fabric to be printed and the number of colors required in printing the design. Any of the methods discussed in Chapter III proved to be appropriate for decorating fabric provided it can be utilized and executed effectively. The methods reviewed in this chapter were: block printing, stencilling, screen printing, direct methods, and resist methods.

Chapter IV explored the nature and functions of curriculum theory which promised to enhance the understanding of content and instruction in the realm of teaching textile theory and skills. The processes and techniques of curriculum development and improvement were studied to serve this end. Emphasis in the writings of scholars such as Tyler and Zais were placed on the need for curriculum workers fully to understand the basis and nature of curricular phenomena before making decisions or changes on any aspects of the school program, since these factors affect the total curriculum. Thus, information contained in Chapter IV focused on four important components of curriculum development, namely (1) curriculum purposes, (2) content of instruction, (3) learning experiences, and (4) evaluation.

The section on curriculum purposes examined the nature, functions and organization of curriculum aims, goals, and objectives derived from three sources--empirical, philosophical, and subject matter sources. These provide information on how to seek for goals and

how to set appropriate goals for an educational program. Sources of educational objectives as discussed include--studies of learners, contemporary life outside the school, subject matter specialists, the philosophy and the psychology of learning.

Curriculum purposes require an assessment and the examination of the fundamental aspects of the life, the needs, and the values of people for the purpose of developing a sense of commitment on which the overall curriculum model is based. The fundamental forces were designed to provide a curriculum that is consistent with the philosophies, cultures, and notions about the nature of people.

The selection and arrangement of content is a major function of curriculum development and must be determined in advance. The outlined curriculum purposes then serve as the primary guide for selecting content of instruction and they are aimed at bringing about the realization of the desired objectives. Content is appropriate and significant if it is essential or basic to the discipline under study and if it is aimed at achieving the desired goals of the program for effective transmission of the desirable knowledge. Consequently, the application of such content makes the curriculum more relevant to students and the society.

In addition, effective organization of learning activities should provide learners with the types of learning experiences that enable them to practice the types of behaviors implied in the objectives outlined by the program. In this regard, learning experiences serve as a means of achieving stated objectives, thus, students can

learn to generate their own ideas for designing and manufacturing textiles through the various activities conducted in the classroom and the school environment. Students may be engaged in activities that require them to interpret, criticize, and analyze issues relating to the subject matter under study. Curriculum activities therefore ought to provide a unified integrated experience for learners and prepare them for their future roles in society.

In Chapter IV evaluation is not treated exclusively in terms of the evaluation of student achievement, which is often connected with grades and marks, but it emphasized both formative (process) and summative (product) evaluation, aimed at identifying the strengths and weaknesses of a program as well as to obtain a comprehensive assessment of the quality of the completed program and to provide a terminal judgment on the curriculum generally.

Chapter V presented criteria for the development of a curriculum using as a basis the synthesized material and information from the literature. The concepts introduced in Chapter IV on curriculum theory thus served as a basis for selecting criteria for the development of a textile curriculum for Nigerian higher education institutions.

Another vital and special function of curriculum organization utilized in the development of the criteria was the selection and arrangement of content for effective achievement of desired educational objectives. In addition, the criteria used in organizing content for the model were based on the three domains of art

curriculum plan suggested in the literature--the production, historical, and the critical domains. The sequencing of activities depended to a considerable degree on the learner's understanding and ability to cope with the work available to them.

Emphasis were placed on both formative and summative evaluation for purposes of promoting and sustaining the quality of a given program. Formative evaluation was aimed at determining the extent to which the desired objectives were being realized by the program, while summative evaluation focused on providing a comprehensive assessment of the quality of the completed program.

An outline for a four year curriculum model provided was based on curriculum specifications and presented in Chapter V. It was designed around the three domains of the art curriculum plan, namely the production, the historical, and the critical. The outline incorporated the traditional and the contemporary modes of textile production and decoration.

A sample lesson in design also was presented to show how the proposed model might be implemented successfully. The subject matter of the sample lesson focused on design networks which were developed according to curriculum specifications as suggested earlier in Chapter IV. The lessons were presented in the form of an outline. The lesson activities were categorized under various headings as follow: (1) goals for the lesson, (2) reading assignments, (3) what to look for when using the references, (4) instructional strategies, (5) learning experiences, and (6) evaluation.

CONCLUSIONS

The following conclusions were based on the findings and information extracted from the literature reviewed with particular emphasis on Nigerian sources. The conclusions which follow are largely delimited to the field of textiles.

1. The Nigerian Curriculum Conference of 1969 rendered valuable service to the nation through their recommendations which were drawn from the suggestions of Nigerians with expertise in various fields. These recommendations were particularly helpful in making most fields of education more meaningful to the people. The needs and values of the society have become more significant criteria for outlining goals of most educational programs because of the Conference.
2. Nigerian society is presumably ready to accept responsibility for the quality of the education of children and youth.
3. Traditional textiles constitute a significant aspect of the Nigerian culture and are held in high esteem; textile works have begun to be produced in greater quantities within the recent years.
4. The success of the curriculum as an important educational tool depends a great deal on the circumstances surrounding its use. Among these are: the school environment, available resources and facilities, teachers, students, as well as the support and cooperation of parents, the community, administrators, and the government.

5. The processes of curriculum development described and advocated in the related literature proved to be highly useful in the design of a teaching program and they provide relevant information for the development of appropriate academic programs.
6. The curriculum model outlined in this study should provide a basis for extensive instructional development and improvement.
7. The model can be adopted and applied to various subject matter areas as well as to improving methods and techniques in textile design and production as well as in comparable fields of study.

RECOMMENDATIONS

The curriculum is a master plan by which educational purposes are accomplished, and curricular decisions are made to foster those values learners need most for successful living and to serve their society effectively. Thus, a textile program designed for Nigerian higher education institutions should reflect the real values of the society, yet at the same time the interests of learners.

Since traditional dress styles are fashionable, extremely valuable and have much meaning to a larger portion of Nigerians, it is reasonable to encourage and improve aspects of traditional fabric art. Thus, Nigerian higher education institutions should serve as agents for the transmission, preservation, and improvement of traditional cultures in order to defend the deeply held beliefs of the society without neglecting the contemporary methods and techniques of fabric art as being practiced in the classroom.

Components of traditional textiles, their methods, techniques and processes also should be adopted and incorporated into the contemporary textile programs.

In this regard, the model developed in this study is one which recognizes the need to construct coherent teaching programs using the processes of curriculum development to demonstrate the relevance for a conceptual framework to enhance the quality of a program. It attempts to give a balanced attention to both the concepts of the traditional and the contemporary modes of textiles. Consequently the model is aimed at producing learners with a broad base of knowledge in both areas, to prepare them to recognize and appreciate their own values as well as those of their society and to equip them with appropriate techniques, methods and processes of contemporary textile development as being practiced in Nigerian institutions and in other parts of the world.

On the basis of the current needs and the emphasis placed on nationalizing and improving the quality of Nigerian education, this study sought to make suggestions and recommendations for changes and adjustments in the field of textiles as follows:

1. Art education institutions should explore the nature and functions of curriculum development and theory as well as its relevance for conceptual frameworks to enhance the understanding of curriculum phenomena.
2. Curriculum specifications should serve as a basis for developing instructional materials and textile programs for Nigeria's higher

educational institutions. The concepts will help institutions in their continuing efforts to adapt to current and future needs of students and of the society.

3. Curriculum purposes outlined for the program should reflect the values and needs of the society and interests of learners as well and all components of curriculum should be aimed at helping learners attain their desired educational purposes.
4. The types of learning activities and the teaching procedure to be followed should be decided upon after the appropriate educational purposes are selected. Thus, the content of instruction could help to provide an opportunity for learners to practice the types of behaviors implied in the objectives.
5. Teaching programs should be evaluated comprehensively. Evaluation should not focus exclusively on assessment of students achievement based on examinations and grading, but should also assess the program goals, means of achieving the goals or learning activities, available resources and teaching methods. Evaluation should be conducted both during the development of the program, and after the program is completed. Students' learning should be assessed frequently, particularly at the end of each activity, subject matter, and at the end of each course program. Sufficient and appropriate resources should be made available and accessible to teachers and students to enhance the quality of teaching and learning.

6. The textile curriculum of other institutions in Nigeria as well as current textbooks should be studied and analyzed in order to synthesize information relevant to improving their fabric art programs.
7. It is important to borrow and adopt the better aspects of foreign textiles that might enhance the production of Nigerian fabrics.
8. The techniques, methods, processes, and the uses of traditional textiles should be studied and, when viable, be adopted and incorporated into the school textile program for preservation of tradition, and also to develop university level programs in textiles that are consistent with the needs, values, and aspirations of Nigerians.
9. The curriculum model should be adapted and incorporated in individual lessons in fabric art in the respective institutions in the country.



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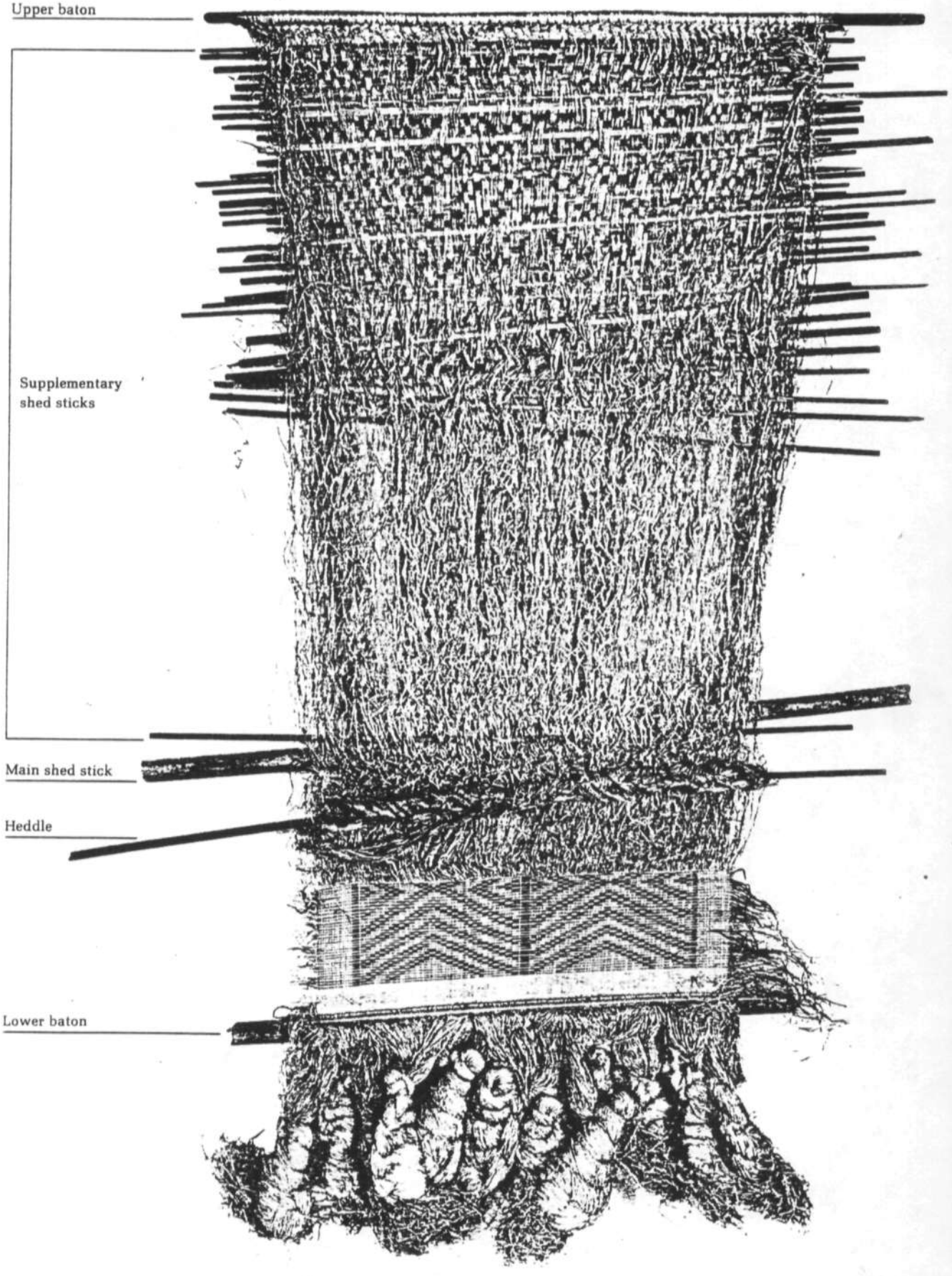
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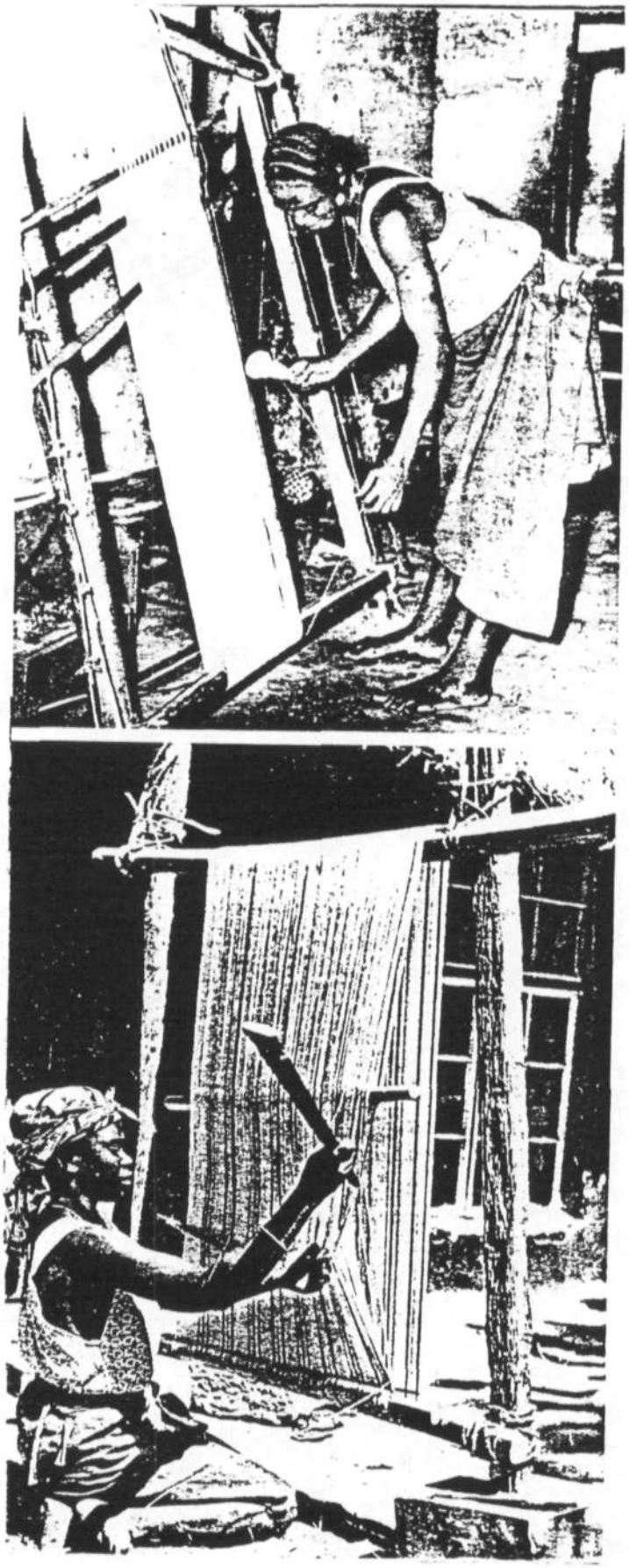
APPENDIX

Illustrations of Some Aspects of Both Traditional and Contemporary Textile

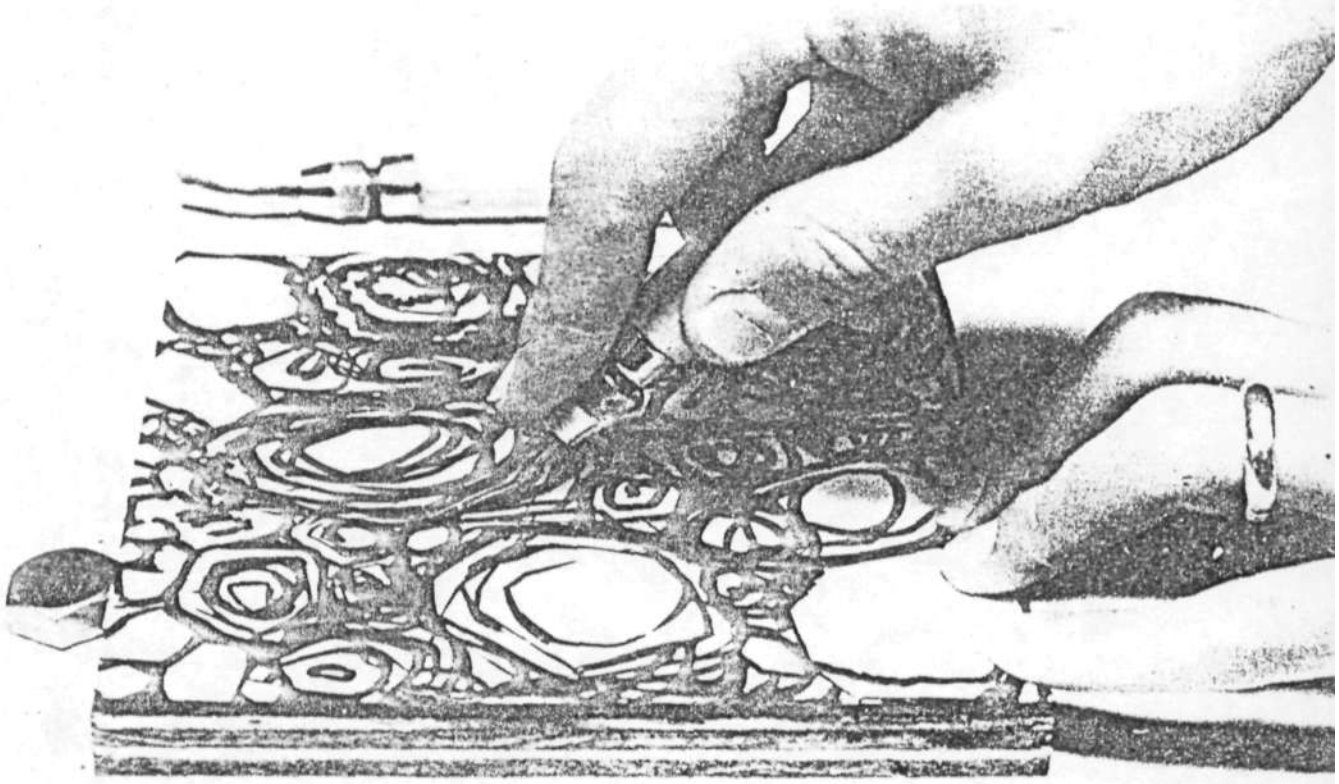
Raffia Loom (Picton & Mack, p. 96)



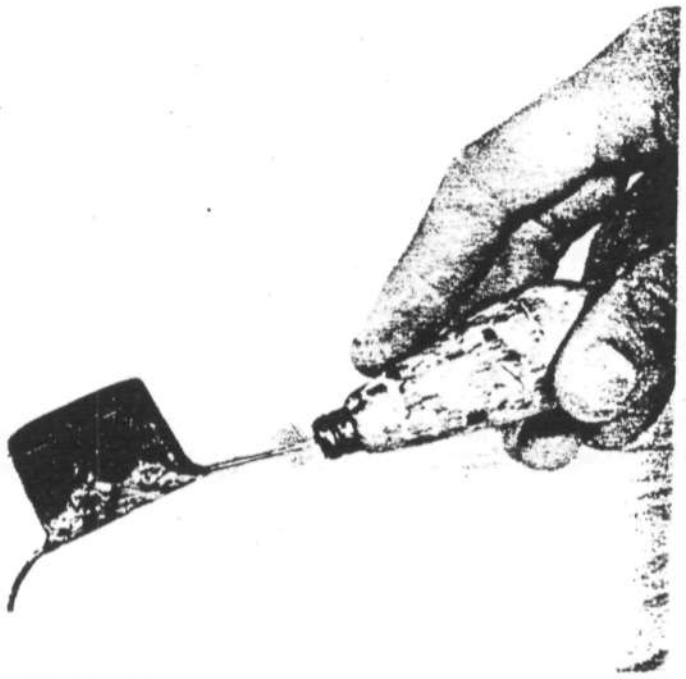
Warp of a Vertical Loom (Eicker, p. 46)



Cutting a Linoleum Block (Kaufman, p. 78)



Tjanting Tool for Batik (Kaufman, p. 116)



Use of the tjanting to apply hot wax.

Traditional Hand Embroidery (From Eicher, p. 84)



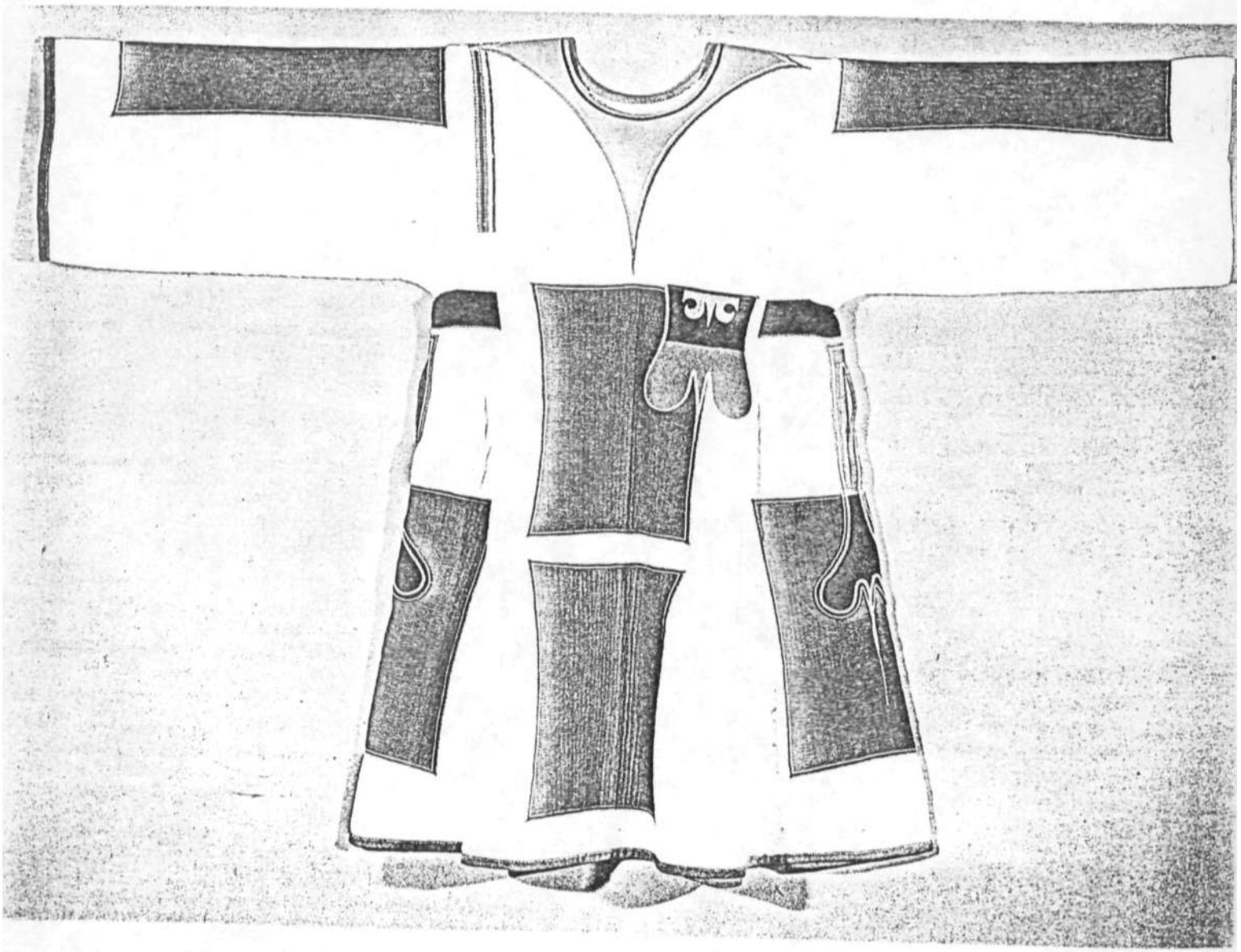
Keno Pit Dyer (From Eicher, p. 54)



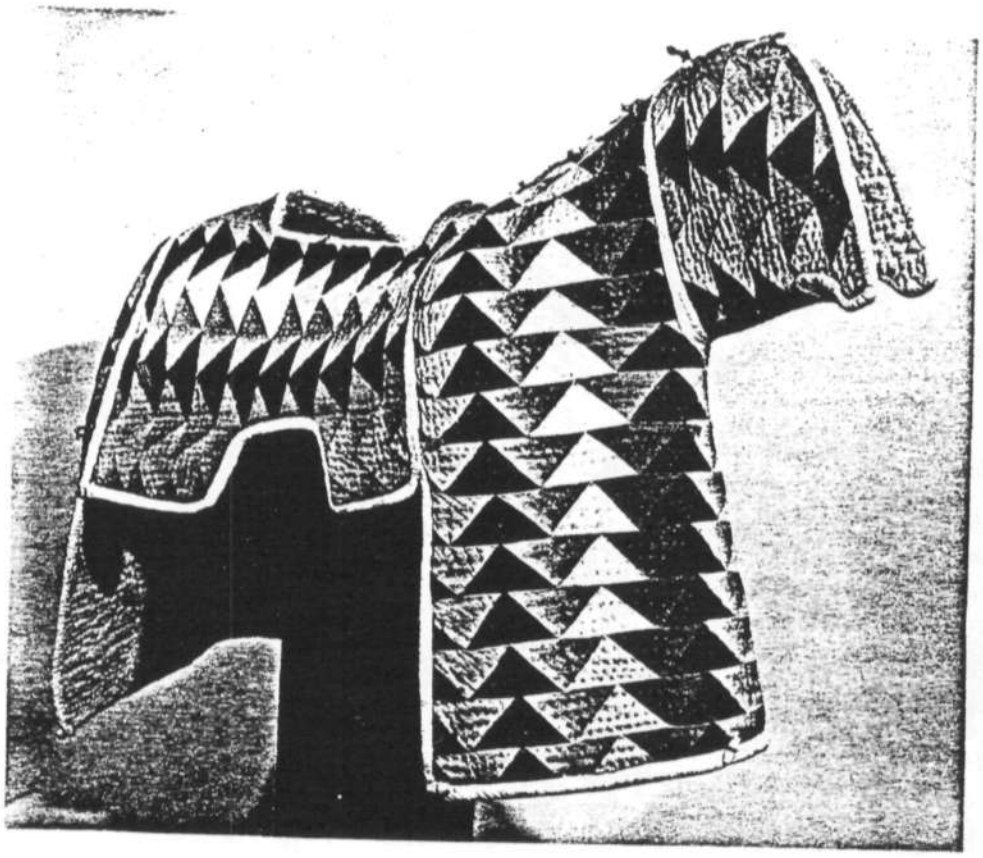
Applique (From Kent, p. 71)



Applique (From Picton & Mack, p. 173)



Patchwork (From Picton & Mack, P. 173)



VITA

Betty Arumun Kparevzua is from Tiv, one of the major ethnic groups in Benue, Nigeria. She attended Gindiri Girls' High School in January, 1961 completed and received West African School Certificate and General Certificate of Education in December, 1965. In July 1971, she was graduated from Ahmadu Bello University and received her B.A. degree in Fine Arts. On graduation, she was awarded a scholarship by Ahmadu Bello University to do a Masters program in Fine Arts. In November, 1973, she completed work on her M.A. degree, majoring in fabric art.

After completing her M.A. degree, Betty Arumun Kparevzua was employed by Ahmadu Bello University to teach art in the department of Fine Arts, where she taught for seven years at university level. She started out as an assistant lecturer in 1973/74 and rose up to the post of Senior Lecturer in October, 1980. During the 1980 academic year, she was granted a Study Fellowship (study leave) to pursue a doctorate program in Art Education at Indiana University.

As an artist and an art teacher, Betty Kparevzua has participated in a number of exhibitions and fashion shows both in Nigeria and while at Indiana University. In June 1980, her article, entitled "Traditional Costume of the Tiv People" was published by the Benue State Art Council Journal-The Cong. She also served on several committees while at Ahmadu Bello University.