COMPARATIVE ANALYSIS OF TWO APPAREL DESIGN METHODS

A THESIS

SUBMITTED IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF ARTS

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NUTRITION,

TEXTILES, AND HUMAN DEVELOPMENT

BY

INSOOK KIM, B.A.

DENTON, TEXAS

MAY, 1977

The Graduate School

Texas Woman's University

Denton, Texas

November 1976

We hereby recommend that the thesis prepared under our supervision by Insook Kim entitled "Comparative Analysis of Two Apparel Design Methods"

be accepted as fulfilling this part of the requirements for the Degree of Master of Arts.

Committee:

Clarice Garrett
Chairman

Bethel M. Castes

Charles L. Riggs

Accepted:

Phyllis Bridges
Dean of The Graduate School

ACKNOWLEDGMENT

The author wishes to express her deep appreciation and gratitude to those who helped make this study possible:

To Dr. Clarice Garrett, chairman of her committee, for her continued interest, patience and proficient guidance throughout the planning and completion of this study.

To Dr. Bethel M. Caster and Dr. Charles L. Riggs for serving on her committee.

To her family who endured separation in order that she may complete this part of her education.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Like many areas in arts and crafts which employ more than one method and tool to create an object, the field of dress design may utilize several methods to develop a garment. A designer may sketch a design on paper so that the idea may be transferred to a pattern maker; a pattern may be developed through the flat pattern method by the manipulation of a sloper; or a design may be draped in the fabric on a dress form or on a live model.

The flat pattern method and the draping method are two important techniques most frequently utilized in designing wearing apparel. These two methods are usually included in academic and vocational curricula for training students in the area of apparel design.

In the flat pattern method, a designer develops a pattern according to geometric rules in order to manipulate two dimensional fabrics to fit the contours of the body. The sloper, also referred to as a block, a foundation, a master or a basic pattern, is the device from which complicated and advanced patterns and designs are developed through the flat pattern method (21).

In the draping method, a designer works with muslin

or fashion fabric and drapes on the dress form in order to obtain the desired design effect. When draping in actual fabric, the fabric is marked with thread to avoid marks showing on the finished garment.

These two basic methods have existed side by side for many years and are understood to be supplementary to each other. Each method is equally important in the creation of satisfactory apparel designs. However, these methods usually are presented as two separate courses in the education program. Each method has very distinctive characteristics as the result of different approaches to dress designing.

High couture designers work primarily with dress forms or live models draping the designs in muslin or actual fabrics. Designers employed by the mass-production industry primarily develop their patterns through the flat pattern method. Designers in oriental countries such as Japan and Korea use the flat pattern method exclusively.

The flat pattern method is sometimes described as a design method that yields more mathematical and firmer design lines, while the draping method produces softer, fabric conscious features of a design detail. The flat pattern method is also considered a practical way of dress designing while many feel that the draping method stimulates

the originality of the dress designer especially when creating in the actual fabric.

Even though many general concepts about the characteristics of these two methods have been mentioned throughout several books, considerable vagueness exists. When an instructor or an author states that certain style features within a silhouette are better developed through draping and others through flat pattern, the style features referred to are not specified. The better method and the extent to which this method is better is not clarified.

Although a combination of these two methods is often recommended as an ideal designing procedure, in general, students or designers, most frequently, use only one of these two methods. In this context, information about the relationships between specific design details and the design methods utilized will be beneficial to both instructors and students. Information of this nature can aid designers in the development of more interesting design details with less difficulty than has been possible in the past.

Based on results of an investigation in which comparisons of garments developed by both the draping and the flat pattern techniques were made, Amy L. Sinclair (27) recommended that knowledge should be gained about which

style features can be developed better through draping and those which can be developed better through the flat pattern technique. Therefore, information gained from this study may fulfill this recommendation.

This study investigated specified design details developed by two design methods: the draping method and the flat pattern method. Specific objectives were:

1. to compare specified design details, each developed by both the draping and the flat pattern method,
2. to determine which of the two methods is more suitable for each specified design detail.

REVIEW OF LITERATURE

The literature reviewed was divided into four areas as follows: 1) history of the flat pattern and draping methods of apparel designing, 2) general concepts and characteristics of the draping and flat pattern methods of designing, 3) differences between the draping and flat pattern methods of designing, 4) comparison of the draping and flat pattern methods of designing.

History of the Flat Pattern and Draping Methods of Apparel Designing

Flat Pattern Method

Moulton (23) stated that the earliest written record of the flat pattern method has been traced to the Italian monks of the twelfth century. The monks cut garment patterns for the monastery and peasants who were under their protection. This pattern cutting idea of the Italian monks is thought to be borrowed from the Greek and Jewish merchants of the same period. The merchants, in turn, appeared to have learned the technique from various Egyptian tribes from time immemorial. The patterns of the Italian monks were crude and simple and consisted of only a back and a sleeve. The patterns were made of slate, paper being unknown and parchment being too precious to use.

Not until the fourteenth century were garments being fitted. By then, sleeves assumed some shapes such as being long and tight. Necklines showed variations of design, also. Garments became more versatile in design during the fifteenth century. Corsets were worn underneath. The tight designs demanded more accuracy in pattern making in oder to fit individual measurements (23).

Until 1671, paper patterns were utilized for dress designs on a scattered individual basis. News of the changing fashions were conveyed by letters, newspaper accounts and by little dolls dressed in the latest styles. In 1671, Bensoit Boulay, a master tailor of Paris, offered the first book on pattern cutting as a guide for garment makers. This book was entitled Le Tailleur Sincere and is now kept at the Victoria and Albert Museum. Arnold (1) showed a diagram of patterns for a "Lady's Riding Habit" copied from this book with a translation of the cutting directions. The instructions and patterns utilized for this riding habit were based entirely on the flat pattern method. L'Art du Tailleur and L'Art de la Lingere, published in 1769 and 1771 respectively contain interesting information regarding pattern instructions for dressmaking. By the era of Queen Marie Antoinette, paper patterns were well established as a convenient tool for dress designing

and several records on pattern making and construction were found.

By the end of the eighteenth century, there were several patterns for women's garments included in pamphlets for interested people. Arnold (1) stated that the earliest advertisement for paper patterns, which were sold to professionals rather than to home dressmakers, appeared in The World of Fashion in 1836.

Home dressmaking became popular with middle class ladies after the 1840's. By this time, several books were supplemented with printed paper sheets of full-size bodice and sleeve patterns. All instructions for garment construction were for hand stitching since hand sewing was not generally replaced by mechanical means until the 1860's. Since 1863 when Ebeneizer Butterick, a country tailor in Massachusetts, showed the first standardized paper patterns for the commercial market, the paper pattern industry has been expanding unceasingly.

Draping Method

In the beginning of human civilization, the Egyptians and Greeks already had exhibited excellent accomplishments of the draping skill. The garments of the early Egyptians, Greeks, and Romans were not cut shapely and sewn together, but rather were draped on the body with the full

width of the fabric. Cloth from the looms of the ancient Mediterranean civilization had the equivalent of selvage edges on all four sides and did not ravel. The all around selvages not only eliminated the need to hem but also enhanced the graceful folds of drapery that were characteristic of all Greek clothing. Weaving people strongly opposed cutting into loomed cloth, preferring instead to drape a rectangle of fabric around the body.

Waugh (28) stated that in spite of the new flat pattern method of designing, which became quite popular during the nineteenth century, dressmakers still clung to the old method of draping customers with paper or holland directly on the body. The Ladies' Handbook of Millinery, Dressmaking and Tailoring, published in 1843, and cited by Waugh, gave a full explanation of draping the thin paper on a person's body and directions for establishing seams and darts. Waugh (28) also stated that in the latter part of the nineteenth century tailors used their own "tailors' method" of draping paper or fabric on the clients or dress forms. In contrast to this, dressmakers usually drafted patterns by the flat pattern method or by taking the customer's old clothes and transferring the shape onto paper with a pin or a tracing wheel.

A phrase from The Cutter's Practical Guide, published in 1889, as cited by Waugh (28) described an

interesting process of ordering a dress form. Whenever a garment was ordered for which a tailor was unable to measure the client, he would send the old garment of the customer to a firm of bust makers to have a dummy made to fit the bodice. Thus, the tailor would be able to successfully cater to the desire of that particular customer without a fitting even if she were out of the country. The duplicate of the clients' body allowed the tailor to try on the garments he was making as many times as he wished for all practical purposes. By the end of the nineteenth century most dressmaking houses had at least one dummy. At first the primary purpose of the dummy was to fit the garment already cut out from a pattern drafted by the flat pattern method, but later on the dressmakers started to cut directly on the dummy. This direct cutting on the dummy, therefore, was known as the dressmaker's method.

The dummies of the 1880's were mounted on wire dress stands shaped to the fashionable bustle silhouette. Skirts were always draped on a dummy. The Cutter's Practical Guide also gave instructions for making a foundation skirt on which the outer skirt was to be draped. After the 1880's, tailored styles became fashionable, and the system of drafting patterns by the flat pattern method became increasingly popular. According to Waugh (28), by the

twentieth century, ordinary dressmakers relied almost entirely on paper patterns for designing, while some experts cut directly on dummies.

The shape of dress forms has gone through several changes along with the change of the fashion silhouette. The dress forms of the 1900's had tiny waists and accentuated hips and busts. The flapper era of 1920 had dress forms with compressed torsos with emphasis on the linear shape. Dress forms of today have more individualized bust shapes and body measurements. There are more than fifty style numbers which are categorized as dress forms for street wear, sports wear, coats and suits and even for bathing suits.

General Concepts and Characteristics of the Two Design Methods

Horn (17) classified all clothing into three basic types: 1) the tailored garment, 2) the draped garment, and 3) the composite type. The term "tailored garment" was used to designate garments made of shaped pieces sewn together. The tailored garment originated during the old stone age of Central Europe. The term "draped garment" was used to indicate the type of garments that were not cut and fitted, but draped with a continuous length of cloth. The civilization of the ancient Mediterranean area favored

draped garments. Besides the Greek himation and chiton and the Roman toga, the sari of the Indians, the poncho of South Americans and the sarong of the Malayans also were included in the draped garments. Fabric designs created by weaving, printing and other means had more significant meaning in the various cultures where draped garments were dominant than in cultures where tailored garments prevailed. These designs on the fabrics played a decorative role as important as the arrangement of the folds. "The composite type garments" included such traditional oriental costumes as those of Japan and China which combined both tailoring and draping features as illustrated in the straight-hanging lines and loose sleeves. Horn (17) stated that even though many contemporary cultures still preserve the original patterns of their own ancient costumes, the great diversity in the garments of today reflects the intense geographic and cultural interchange occuring in the modern world.

In flat pattern drafting, the master block pattern or sloper, a foundation pattern made either by drafting from body measurements or by draping on the individual dress form, is utilized. Slopers are not intended to be worn as final garments; they are basic units from which designers develop advanced designs. The purpose of preparing a sloper and pivoting or slashing the sloper to develop a final design is to retain the original size and fit of the

garment.

Each garment company has its own set of slopers, developed from its own specific measurements, models or dress forms. These slopers are subject to change in order to conform to the current fashion silhouette of the season, for example, from hourglass to flapper to curvaceous figure (21).

In 1974, Babcock (2) compared the measurements and fit of four basic patterns in misses size twelve from four different commercial garment pattern companies - McCalls, Butterick, Vogue and Simplicity. A misses size twelve basic pattern of each company was purchased and these patterns were compared at sixty-five specified measurement points. Four muslin shells, one constructed from each of the four patterns, were compared on live models relative to fit. Results showed that there were significant differences between the pattern measurements even though all the companies met the specifications of the United States Bureau of Standards. The measurements of the Butterick and Vogue patterns were identical at all sixty-five points. The difference was thought to be mainly from different allowances for ease and a slight difference in the type of target customer of each company.

In 1969, Fisher (11) investigated the fit of basic dresses constructed from the drafted Japanese basic dress

pattern and the Simplicity commercial basic dress pattern. Japanese patterns developed by the drafting method of Madame Sugino were utilized. The Japanese pattern drafting method was considered to be different from other methods of pattern drafting. In the Japanese drafting method, most all measurements for each design are included in the drafting instructions and the use of slashing or pivoting is minimized in developing advanced patterns. Forty-eight senior high school girls volunteered to draft and construct basic garments utilizing the Japanese drafting method. The Simplicity basic patterns corresponding to the size of each student were purchased and muslin garments were constructed. A panel of four judges evaluated the fit of the garments. The conclusion was that the dresses developed by the two methods were satisfactory without significant differences.

In 1967, Scouten (26) conducted research on the modification of the McKibben bodice draft. The McKibben bodice draft was a sleeveless bodice pattern developed by an Iowa graduate for use by the women of the United Arab Republic. Since the Arab women were not familiar either with the Western drafting method or with English, the purpose of the McKibben bodice draft was to find a method of pattern drafting which was simpler than the usual flat

pattern method, and which provided reasonable fit at the same time. Scouten modified the draft to insure better fit and added a simple sleeve drafting method. Scouten also devised simple directions for the drafting procedure both in the English and Arab languages. Since the intricacy of taking several measurements of individual bodies was one of the most important causes of the confusion and inaccuracy of drafting, the measurements of the neck-depth, the neck-width, the armhole length and the cap height were standardized according to the total bust girth. Scouten (26) stated that this method was adopted since a study of commercial patterns in size ten through twenty revealed that they were graded utilizing standard measurements based on the total bust girth. The total waist measurement was taken and divided so that the front waist measurement was one inch larger than the back waist measurement. The shell made from this draft was tested on the body and judged to be satisfactory.

Differences Between the Draping and Flat Pattern Method of Designing

The importance of using both techniques to develop perfect patterns has been emphasized by many authors and instructors. Hillhouse and Mansfield (14) asserted that one can work with greater understanding, efficiency and

skill if he or she is able to use both systems. The two methods of draping and blocking supplement one another. An understanding of one method helps to clarify the other method. Most designs are developed by using one system or the other, or sometimes by a combination of the two methods. Therefore, it is essential for a designer to learn to use both methods with facility and independence in order to design original costumes.

The curricula of the clothing department of most universities, colleges and vocational schools of apparel design offer courses in both the flat pattern and draping methods. The order in which the courses are offered varies, but usually one course is a prerequisite for the other. Understanding of one system is assumed to aid in understanding the other.

In the February 1976 issue of Vogue Patterns, the process of the creation of Vogue patterns was described as a special feature of the magazine. A designer of the company renders a rough sketch called a croquis which illustrates all construction lines, seams, darts, sleeves, pleats and decorative details. This croquis, along with a basic silhouette, is given to a pattern maker. As a first interpretation of the croquis, the pattern maker drafts a pattern by the flat pattern method utilizing the sloper.

A muslin is cut from this pattern. The muslin shell is then placed on the company's standard dress form and fitted. Dart position, skirt shape, neckline, collar, sleeve fullness and all design lines and details of the original croquis are checked so that the original muslin has the look the designer intended. A heavy paper pattern is traced from the fitted muslin. This pattern is called the master pattern block for the specific design. Using this master pattern, a dressmaker constructs the garment on a home sewing machine to test the feasibility of construction techniques on home sewing machines. The pattern is tested for its suitability for napped, striped, plaid and diagonal weave fabrics. If the pattern is for a heavy weight or a light weight fabric, the garment will be made in the proper weight fabric, so that the drape will be accurate. A model then tries on the garment and the fit and mobility of the design is checked. Then this master pattern block is scaled, up or down, for all the sizes in which the particular pattern is to be cut. Thus, as far as the Vogue pattern is concerned, they are drafted originally by the flat pattern method, then checked on the dress form in muslin in order to adjust details and fit. After adjustments have been made, a garment is constructed from actual dress fabric and a final check is made on a live model.

However, in the actual designing room, not all designers follow the ideal but time consuming steps of first drafting a pattern and then making corrections by placing the muslin from the pattern on a dress form and/or a live model. Some designers favor one method while others prefer the other method. A number of Parisian and some American haute couture designers, exclusively work out their ideas by draping directly in muslin or fashion fabric on the dress form. Most all designers of the custom-tailoring boutiques of oriental countries such as Japan, Korea and Thailand almost entirely depend upon the flat pattern method for apparel designing. In mass-production, the combination of the two methods becomes more difficult to practice due to the demands for speedy and economical pattern making operations.

In 1974, Brewster (5) investigated design techniques utilized by designers in the Dallas area as part of a study concerning the adequacy of college courses for fashion designers. According to the designers who responded to questionnaires, 68.33 percent were using mostly the flat pattern technique while 31.67 percent were draping on dress forms. Two designers were draping on live models. The designer respondents also were requested to evaluate their college courses, basing the

standard of evaluation on the actual helpfullness of the courses for the accomplishment of the job assignment. The conclusion was that a need exists for placing more emphasis on training in the area of specialization. Brewster recommended that the following courses should be added to the existing curricula if not already included: advanced flat pattern, apprenticeship, sportswear design, fashion production, production knowledge, career orientation, children's wear design, pattern grading, fashion sketching and fashion promotion.

Comparison of the Draping Method and the Flat Pattern Method of Designing

Some authorities have attempted to compare the draping method with the flat pattern method. Evans (9) pointed out that for many designers draping is the most satisfying method as this method permits them to see the design in its entirety and enables them to use the fall, the character of lines, and the folds of the fabric to the best advantage. Waugh (28) felt that the flat pattern method is not a system to produce a revolutionary change in fashion line but is a practical and accurate way of making a pattern. The flat pattern drafting method was considered to be eminently suitable for coats, suits, simple dresses, and of course, for mass-production. Waugh

described the draping method as being more personal and essential in designing dresses where fullness and folds were required.

Kopp and associates (21) considered the flat pattern method of designing as a method which offers the designer shortcuts in executing basic parts of garments within designs, whether they be originals, copies or volume production. The use of a sloper faciliates rapid development of patterns. These authors also stated that certain style features within a silhouette are better developed through draping, while others are developed better through flat pattern drafting.

Hillhouse and Mansfield (14) described the differences and the important properties of each of the two apparel design methods. Each method has its unique advantages. The results of apparel designing can be most satisfying only when one is able to choose and utilize the method which suits better a particular situation. An understanding of one method helps to explain the other. The designs developed from the flat pattern method can be utterly cold, set, and lifeless if one has not had experience in working with the fabric on the form. Such designs may be accurate, but they will lack the finer line placement gained through draping experience. Often, one

of the two methods is more suitable for a particular situation. The flat pattern method was considered to be the most reliable method for drafting a master sleeve pattern that fits exactly each part of the arm in all positions. The sleeves draped on a dress form are not accurate enough to accomodate the demands of all arm movements since movement of the arm is very much varied.

Eddy and Wiley (8) compared several methods of developing dress designs, namely, commercial patterns, drafting, flat pattern design, draping and free-hand cutting. The term "drafting" was differentiated from the flat pattern method as the system which develops a pattern only through the use of measurements without involvement in the manipulation of geometric rules. This method is seldom utilized to satisfy variations of individual figures due to the difficulties involved. In this method, development of a successful new draft is a very important and time-consuming task each time a decided change in the fashion silhouette occurs. However, the blocking out of simple patterns, such as kimono dresses and sleeves, where only a few simple, clear measurements and lines are necessary, is often a very quick and satisfactory method of obtaining a pattern.

Eddy and Wiley also pointed out the advantages

and disadvantages of the flat pattern method and the draping method of designing apparel. One disadvantage of the flat pattern method lies in the fact that a determination about the necessary amount of fullness or flare is often difficult to make. An advantage of the flat pattern method is that the pattern can be drafted before the material is purchased so that one can know exactly how much material is required. A disadvantage of the draping method is that the draping technique requires a much greater knowledge of pattern line and of handling of materials than does flat pattern designing. An important advantage of the draping method is that one can observe, during the development of a design, the behavior of the material in establishing lines and folds.

Domigan (7) investigated the use of the standard dart and seam variations as sources of design in dress. Muslin shells of different designs utilizing darts and seams as decorative features were first cut by the flat pattern method. The shells, then, were placed on a half-size dress form in order to ascertain the satisfactory use of these variations as design sources. Domigan found that frequently there was a need to change the original grain position. This researcher concluded that: 1) in dart variations where the line formed a free fold on a placket

opening, the grain was best when placed along a dart edge, 2) dart variations offered a freer medium than did the variations of french dart jackets and princess cuts where specific grain placements had already been standardized, 3) the balance of grain at the bust level was important both in blouse fronts and backs, regardless of the position of the dart, 4) asymmetrical designs often may be planned to appear balanced, although the design differs on the two sides, 5) from the point of view of excellence of fit in the molded jackets, there was an advantage in the use of a continuous seam rather than a combination of two darts.

Results of a study by Brockman (6) of the measurements of dress forms manufactured during the years from 1956 to 1963 showed that the dress form of each manufacturer differed in shape and measurements. The slightly different concepts of the ideal human body of the Bauman, Wolf, and Superior dress form companies were reflected in the subtly different measurements and contours of the dress form of each company. Even though the measurements of the waist for the same size were identical for all the dress forms of the three companies, the torsoline measurement of each dress form differed. For misses sizes, measurements of the torsoline of the Bauman dress form increased eleven

inches from the waistline measurement while that of the Wolf dress form and the Superior Company dress form increased only ten and one half and ten inches respectively in this measurement. In addition to the torsoline measurement, differences were observed in the widths of the waist and skirt panels and the armhole measurements.

Roberts (25) conducted a study pertaining to the construction of a dress form of rigid polyeurethane foam. The purpose of making this special dress form was to eliminate several difficulties that arose when an individual attempted to pad a commercial dress form to her own body shape.

In a selected college draping class, all the students constructed polyeurethane foam forms. To make this form, a mold of each student's body was made utilizing a cotton jersey tube which was covered with narrow strips of cardboard and masking tape. After completion, the mold was removed from the body, and the neck and arm openings were closed. Then, the mold was filled with a mixture of two liquid components which solidified quickly. Upon removal of the mold, the form was completed and was ready for use.

These foam forms closely simulated the body size, shape and posture of each individual. The foam forms were excellent duplicates of the body irregularities, were quick

and easy to make, were easily punctured by pins, and were light in weight. These forms were also solid, therefore, held their shape when transported or stored.

As an additional study for further utilization of this dress form, pattern alterations were tried on this foam form. The students placed the commercial paper patterns on the foam forms and checked the fit, marking alterations with colored pencils. The pattern alterations executed with the help of this dress form eliminated many fitting problems which were difficult to detect when working with the measurements of the pattern only. In addition, the placement of design lines and fullness in the garment could be evaluated at the pattern stage.

In a study by Heagney and co-workers (13), Heagney and Lyle attempted to devise an effective instrument in the form of a mini manikin for use in apparel designing education. They identified a number of problems that were present in current clothing education. Too much time was required to teach a student to become proficient in dress design. The students needed additional time beyond the laboratory hourly requirements to complete assignments. The students also were financially limited in buying large yardages of fabric that were recommended for class experimentation. The learning experiences were oriented to the

student's individual figure problems and designs rather than to the basic concepts that are transferable to any figure situation. The laboratory space of the clothing department was not always sufficient for large numbers of students. In an attempt to minimize these problems, Heagney and Lyle devised an idea for an educational instrument called the Miss Dot, Junior Minikin. This was a miniature doll created by a sculptor under the specifications that the doll be elegant and fresh yet not too sophisticated to be appealing to the young student adults. Seven of the eighteen students in a clothing class volunteered to experiment with the Minikin. These students draped a miniature basic dress on the Minikin, created a second miniature dress and pattern, and finished full size basic dresses for themselves. Results of this experiment showed that the Minikin offered a wider and speedier overview of the process of pattern and dress construction than the conventional designing education.

Wilbur (13), a member of the research team of Heagney, Lyle and Wilbur, had students in a draping class use the Junior Minikin in order to ascertain its value as an educational tool. When students purchased fabric and made up a garment for themselves, the experience of working with a wide range of fabrics was limited and many

times prohibited due to the high cost of many types of fabrics. However, when the Minikin was used, the fabrics were furnished by the instructor, thus affording the students opportunities to work with wider range of fabrics. With access to more expensive and formal fabrics, the students usually preferred to drape mostly long garments, which they seldom chose as the style when constructing in full size.

In addition, students' inquiries had greater depth when they were working with the Minikin than when fashioning garments for themselves. More original styles were noted when they were designed for the Minikin. Some students commented that the attractive form of the Minikin helped them to forget about their own figure problems and stimulated their creative ability. Another advantage of the Minikin was that the students acquired a greater knowledge of the draping and constructional qualities of more fabrics as a result of wider experiences with more varieties of fabrics.

In 1970, Ho (15) compared the ease differential and shapes of parallel-slash and radiating-slash sleeves. The specific purpose of this research was to compare the difference between the basic sleeve, the parallel-slash sleeve and the radiating-slash sleeve relative to the

amount of ease and the distribution of fullness. The study was focused on the ease differential of the sleeve cap above the scyeline only. The sleeve developed by the parallel-slash method was a sleeve whose basic sleeve sloper was slashed along the slash lines that ran from the edge of the sleeve cap vertically to the hemline of the sleeve and spread in order to introduce ease. The sleeves produced by the radiating-slash method were made by starting the slashes at the armscye edge of the sleeve cap and converging all the slash lines at a point located in the center of the sleeve along the scyeline. When the slashes were spread, the sleeve cap was increased. The increase was concentrated only in the sleeve cap with no influence on the sleeve below the scyeline.

The basic sleeve and basic bodice sloper were developed in tissue paper through draping on a manikin. A muslin shell was cut from this tissue pattern and the fit was checked on the manikin. After fitting, a grid consisting of twenty-six squares was drawn on the basic sleeve sloper in order to locate holes for measuring the ease differential. The grid lines originated at the scyeline and were extended to the edge of the sleeve cap. Then, five slash lines were drawn on the sleeve sloper for both the parallel-slash and the radiating-slash pattern development. Each slash was spread four millimeters, with

the total spread equal to twenty millimeters. The original grid was transferred to each of the developed sleeves. Two half-shells were constructed from a 65/35 percent polyester/combed cotton fabric. The garments were placed on the manikin and the distance between the garment and the manikin was measured by means of a vernier caliper.

Results revealed that the basic sleeve had the least amount of ease overall and the parallel-slash sleeve had the greatest amount of ease in the crosswise direction. The overall shape showed that the parallel-slash sleeve had the widest and flattest contour in the crosswise direction while the radiating-slash sleeve had the tallest and sharpest contour in the lengthwise direction. Therefore, Ho suggested that parallel-slash sleeves may be suitable for a person who has rounded upper arms and radiating-slash sleeves may provide better fit for a person who has bony or prominent shoulders and thin arms.

In 1974, Sinclair (27) compared the contour of garments versus the contour of the body within, when the garments were designed by both the draping and the flat pattern techniques. The specific objective of this investigation was to compare the ease differential between the garments made by the flat pattern method and those made by the draping method. A garment design with two tucks was chosen for this research. One tuck was located

at the center of the shoulder and the other one at a position closer to the neckline. The tucks extended diagonally from the shoulder seam to the center front seam.

A sloper was draped on a 1974 Wolf brand dress form, size five junior petite, utilizing a thin broadcloth fabric. Then, a garment with two tucks was draped on the same dress form, using a thin, clinging one hundred percent polyester fabric. The sloper was used to develop a garment of like design by the flat pattern blocking method from the polyester fabric. The two tucks were arranged identically in location and size to those of the draped garment. Grids were established at approximately 2.5 centimeter intervals on the dress form by means of black tapes. The distance between the surface of the dress form and the garment was measured with a vernier caliper.

Sinclair (27) hypothesized that there would be no significant difference in ease differential between the garment made by the draping method and the garment developed by the flat pattern method. Results showed the mean perpendicular distance of the draped garment to be 3.19 millimeters while that of the flat pattern garment to be 3.82 millimeters. Thus, the overall ease differential contained in the garment made by the flat pattern method was larger by only 0.63 millimeters or 19.93 percent than

that contained in the draped garment. The smallest difference in the ease differential between the garments developed by the two methods was found in the section along the two tucks, the exact location where style fullness had been introduced. Sinclair assumed that there would be more ease differential at the areas where style fullness was introduced than at the area where no fullness was introduced. However, the results showed this was not the case. She felt that this difference may have been due to the difference between the fabrics used for the sloper and the flat pattern drafted garment. Therefore, she was not sure whether the garment developed by the flat pattern method could have duplicated the fit of the draped garment had the basic sloper been made of the same fabric as the final garment.

This researcher also mentioned that the lower part of the tuck in the two garments was not alike in spite of an effort to make them identical. The width of the tuck in the garment developed by the flat pattern method was more consistent than the width of the tuck in the draped garment. Therefore, the design by the flat pattern method was closer to the intended design than was the draped garment.

On the basis of the findings in this study, further research was recommended relative to which style features

may be developed better through the draping method and which may be developed better through the flat pattern technique.

LIMITATIONS OF THE STUDY

This study was limited to fifteen specified design details. Ten of the design details were positioned within the bodice area and five were located in the skirt area. The researcher's ability in executing the draping and flat pattern techniques was assumed to be approximately equal since the degree of formal training she had experienced in the use of each method was the same.

CHAPTER II

PROCEDURE

This study was designed to investigate both the draping and the flat pattern methods of designing wearing apparel in order to determine the method most appropriate for specified style details.

Selection of the Design Details

After studying and analyzing numerous apparel styles and design details, fifteen specific design details were selected for execution by both the draping and the flat pattern techniques. Magazines, counter pattern books, trade papers, fashion magazines, both foreign and domestic, were used as sources of inspiration for the design details. The selected designs included twists, gathers, yokes, cowls, ruffles, bias grains, pleats, and combinations of decorative and structural lines. Ten of the selected design details were located in the bodice and five were treated in the skirt. A sketch of each style detail appears in Appendix B.

Description and Execution of the Design Details

Each of the selected designs except the cowl was executed in medium weight muslin. A rayon crepe fabric with good drapable characteristics was used for rendering the cowl design. The fabric pairs of the selected design details were numbered from 1 to 15 and are referred to as Sets.

Set 1, Design 1, incorporated two criss-cross unpressed folds in the bodice. The folds originated at a point immediately under the bust and radiated diagonally to the side seam at the waist level. The width of the panel formed by the folds was wider directly beneath the bust than at the side seam. The normal constructional dart take-up was relocated to fall beneath the panel in the form of folds. The excess fabric was stitched as a seam and trimmed away.

Set 2, Design 2, featured a bodice with a twist incorporated within a yoke. A twist is a design detail which is accomplished when one section of the garment loops through a second section of the garment. A narrow extension of the lower section of the bodice was twisted around the yoke section and then the yoke was attached to the lower section of the bodice. The lower section of the bodice was cut on the bias grain. Several soft folds resulted from

the twist in both the yoke and lower section of the bodice. Since the normal dart fullness was absorbed by the twist, no constructional dart was necessary.

Set 3, Design 3, was a bodice seamed at center front with bust fullness provided through gathers emanating from a slash at the neck edge either side of the bust. The front bodice extended past the shoulder line to center back neckline where small folds were formed. These folds extended from center back toward the front slightly below the shoulder line.

Set 4, Design 4, was a cowl neckline that contained U-shaped folds which fell from the shoulder seams. The depth of the cowl extended from a high neckline to slightly above the bustline. The cowl accounted for a portion of the fullness needed for the bust with the remainder being provided by a french dart. The center front grain was laid on the true bias.

Set 5, Design 5, was a close fitting bodice with a twisted yoke. Soft folds were formed in the twisted area. The lower part of the bodice was fitted to the body by utilizing ordinary waistline darts.

Set 6, Design 6, had a yoke section containing decorative style lines. The bottom of the yoke formed the raised waistline. The curved style lines originated at

the center of the neckline and curved downward slightly below the bust point, then outward to the side seam of the yoke. Darting needed for the bust contour occured at the seams of the yoke and the style lines. The yoke section fitted the body closely, but the waist area was left loose with four unpressed pleats originating at the lower edge of the yoke line.

Set 7, Design 7, was a bodice cut on the bias grain. A rectangular panel cut on the straight grain was placed on each side of the bodice. One side of this panel followed the french dart line and the other side formed a portion of the bodice side seam. The upper edge of the panels fell two inches below the armscye and the lower edge coincided with the waistline.

Set 8, Design 8, was a strapless bodice comprised of four tiers of bias ruffles. The bodice was hip-length with each succeeding ruffle being wider than the preceding one.

Set 9, Design 9, was a circular cut jabot and collar. The jabot was attached along the center front seam. Three complete circular pieces of fabric were utilized for the jabot and the collar. Standard waistline darts were used and an opening appeared at the center back.

Set 10, Design 10, was a blouson bodice with back emphasis. Three deep folds which originated at the center

front seam of a yoke radiated outward over the shoulder and down the back of the bodice in a diagonal direction. Since the left side of the back bodice overlapped part of the right side, the design as a whole assumed asymmetrical balance.

Set 11, Design 11, was a skirt with a yoke. Gathers were concentrated in the center front at the lower edge of the yoke. The general shape of the skirt was an A-line silhouette.

Set 12, Design 12, consisted of a peg-top skirt. The silhouette of the skirt was formed by several folds placed at each side of the skirt above the hip level. This skirt consisted of two gores joined at the center front and the center back. Since the center back was laid on a straight grain line, the center front automatically fell on the bias grain of the fabric.

Set 13, Design 13, was a skirt of asymmetrical design which consisted of three folds in a diagonal direction and two folds in a vertical direction. The diagonal folds originated from beneath one of the vertical folds and terminated near the opposite side seam. A slash was required under the vertical fold to absorb and maintain the three diagonal folds. The second vertical fold, located near the side seam, was shorter and shallower than the first one.

Set 14, Design 14, was a skirt with graduated

rippled ruffles down the center front. The ruffles were created by folding back a portion of the front skirt panel that was cut in a circular shape. The ruffles graduated in size as they descended from the waistline to the hemline. The skirt panels were joined at the center front waistline.

A full-length deep cowl skirt comprised Set 15, Design 15. The skirt consisted of two panels seamed together at the center front and the center back. The deep folds of the cowl fell along the center front seam line. The center back was laid on straight grain thus resulting in a bias grain line at the center front.

A size eight, 1974 Wolf brand, dress form was used in all draping procedures. Measurements of this dress form were used to develop a bodice and skirt sloper to be used in drafting the specified designs by the flat pattern blocking method. A test muslin was cut from the basic sloper, stitched, and fitted to the size eight dress form. The necessary adjustments were made in order to insure identical sizing for both methods. The muslin proof was transferred to tag board and used as the basic sloper for drafting all designs by the flat pattern method.

Each design detail was developed first by utilizing the flat pattern method and following the sketch of the design. The same design, then, was developed through

the draping method.

Evaluation

A panel of three judges was chosen to evaluate each set of the specified design details. All judges had advance degrees in Clothing and Textiles and had completed at least one draping and one flat pattern course. All had acquired teaching experience at the college level.

Before presenting the sets for evaluation, the objectives of the research and the evaluation criteria were explained to the judges. The evaluators were requested not to discuss their evaluations with each other during the evaluation session.

Criteria sheets and evaluation sheets were distributed to the judges at the beginning of the evaluation session. Four criteria for evaluation were utilized: grain, line, proportion, and overall appearance. A five-point rating scale was utilized in the evaluation of each criterion. A value of five was assigned the "excellent" evaluation and a value of one was assigned the "unacceptable" evaluation. Samples of the criteria sheet and the evaluation sheet appear in Appendix A.

A room with good lighting conditions was selected for presenting the muslin sets to the judges for evaluation. Three tall screens covered with deep blue craft paper were

placed in a manner to provide an even, contrasting background for the garments. An easel was centered in front of the screens for use in displaying a sketch of the design detail when each set of muslins was presented.

A spot was marked on the floor with masking tape eighteen inches from the easel on either side to insure accurate positioning of all samples. The two muslins for each set of design details were placed on size eight dress forms for presentation to the judges. The height of the dress forms was kept equal.

Chairs for the judges were placed six feet from the samples. The chairs were arranged in such a manner that a judge was unable to view the evaluation sheets of other judges.

Prior to placing the samples before the judges, the two muslin samples of each set were placed on the dress forms while behind the screens and adjusted by the researcher so that the appearance of the two muslins would be as alike as possible. The sketch of the specific design detail was placed on the easel. With the assistance of an aide, the two dress forms supporting the muslin samples were positioned on each side of the easel and left for two minutes for evaluation by the judges. The forms, then, were moved behind the screens and the muslins were removed. Another set was placed on the dress forms and the procedure

repeated. The position of the muslin samples was reversed when each successive set was presented in order to minimize bias toward either of the two design methods.

Statistical Treatment of the Data

The data were subjected to Student's t-test for the difference between means in order to determine significant differences between the two designing methods. This test was applied first to the scores of each of the four evaluation criteria for each individual design. The four criteria scores for each design were averaged and the t-test was applied to these averages to determine the significant differences between the two methods for each design detail. The 0.05 probability level was considered significant and the 0.01 probability level was considered highly significant.

CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

This study was designed to determine the better method for the development of the specified design details when the draping and flat pattern methods were utilized. Muslin shells were constructed for each of the selected design details and evaluated by a panel of three judges.

Differences between the means of each evaluation criterion for Design 1 for the two design methods are shown in Table I.

TABLE I. Differences Between the Means of Design 1 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	4.00	0.00	3.67	0.58	1.00
Line	4.00	0.00	3.33	0.58	2.00
Proportion	3.67	0.58	3.33	0.58	0.71
Overall Appearance	4.00	0.00	3.00	0.00	∞ **

**Significant at the 0.01 probability level.

Results of the judges' evaluation scores revealed that there were differences between the means of the two methods for developing Design 1, but that the differences were too

small to be significant. A result of note was the infinite value that resulted from the difference between the means test for overall appearance. This revealed complete agreement among the judges regarding a definite difference between the overall appearance of the two muslin shells for Design 1.

Table II shows differences between the means, standard deviations and t-values of the two design methods for Design 2.

TABLE II. Differences Between the Means of Design 2 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.67	0.58	3.00	1.00	1.00
Line	3.67	0.58	3.00	0.00	2.00
Proportion	3.33	0.58	3.33	0.58	0.00
Overall Appearance	3.67	0.58	3.67	0.58	0.00

The evaluation scores for grain and line of Design 2 developed by the draping method were higher than those for the flat pattern method. No difference existed in the scores for proportion and overall appearance. However, none of the differences were significant which indicated that either method could be used for the development of this design.

The means, standard deviations and t-tests for Design 3 are shown in Table III.

TABLE III. Differences Between the Means of Design 3 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.67	0.58	2.33	0.58	2.83*
Line	3.67	0.58	2.67	0.58	2.12
Proportion	3.67	0.58	3.00	0.00	2.00
Overall Appearance	4.00	0.00	2.33	0.58	5.00**

*Significant at the 0.05 probability level.

**Significant at the 0.01 probability level.

The means of the draping method for Design 3 were higher for all the criteria than were those for the flat pattern method. The differences between the mean scores for grain and overall appearance were significant at the 0.05 and 0.01 probability levels respectively. With respect to these two criteria, results revealed that the draping method was more suitable for use in the development of Design 3 than was the flat pattern method.

The mean scores, standard deviations, and t-test results for Design 4 are given in Table IV. For Design 4, all judges rated the grain of the draped muslin higher than that of the flat pattern method. The means for line and

overall appearance of the draping method were significantly higher than those of the flat pattern method.

TABLE IV. Differences Between the Means of Design 4 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	4.00	0.00	3.00	0.00	∞ **
Line	4.33	0.58	2.67	0.58	3.54*
Proportion	3.67	0.58	2.67	0.58	2.12
Overall Appearance	4.33	0.58	2.67	0.58	3.54*

*Significant at the 0.05 probability level.

**Significant at the 0.01 probability level.

Thus, for Design 4, the draping method was more satisfactory than was the flat pattern method in regard to grain, line, proportion and overall appearance.

Table V reports the mean criteria evaluation scores and the results of t-tests for Design 5. Significant differences were noted for Design 5 between the mean scores of the two methods for grain, line, and overall appearance. The fact that the twisted yoke section required snug fit over the bust area without extra fullness could have caused the draped muslin to be rated better than the flat patterned one. No significant difference was detected between the

mean proportion scores for the two methods.

TABLE V. Differences Between the Means of Design 5 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.67	0.58	2.33	0.58	2.83*
Line	3.00	0.00	1.67	0.58	4.00*
Proportion	3.00	1.00	2.33	0.58	1.00
Overall Appearance	3.67	0.58	1.67	0.58	4.22*

*Significant at the 0.05 probability level.

Therefore, the draping method was the superior method for the development of Design 5 in terms of grain, line and overall appearance.

Table VI gives the mean criteria evaluation scores and t-test results for Design 6. No significant differences between the means of any of the criteria for Design 6 were observed even though the means of the draped muslin were slightly higher than those of the shell developed by the flat pattern method. Thus, this design could be developed equally well by either of the two methods.

TABLE VI. Differences Between the Means of Design 6 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.33	0.58	3.00	0.00	1.00
Line	3.33	0.58	2.67	0.58	1.41
Proportion	3.00	1.00	2.67	0.58	0.50
Overall Appearance	3.33	0.58	2.67	0.58	1.41

The means, standard deviations and t-test results for the two design methods for Design 7 are shown in Table VII.

TABLE VII. Differences Between the Means of Design 7 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	2.67	0.58	2.00	1.00	1.00
Line	3.00	0.00	2.00	0.00	∞ **
Proportion	3.00	0.00	2.33	0.58	2.00
Overall Appearance	3.33	0.58	1.33	0.58	4.25*

*Significant at the 0.05 probability level.

**Significant at the 0.01 probability level.

There was unanimous agreement among the judges that a defi-

nite difference existed between the two methods when line was evaluated for Design 7. The mean scores for grain and proportion showed no significant difference while overall appearance of the draped garment was significantly superior to that of the muslin produced by the flat pattern method. Thus, this design was executed better by the draping method than through the flat pattern method with respect to line and overall appearance.

Table VIII illustrates the mean criteria evaluation scores and t-test results for Design 8.

TABLE VIII. Differences Between the Means of Design 8 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.33	0.58	2.67	1.16	0.89
Line	2.67	0.58	3.00	1.00	-0.50
Proportion	2.67	0.58	3.33	0.58	-1.41
Overall Appearance	3.00	1.00	2.33	0.58	1.00

No significant difference occurred between the two methods in the development of Design 8. Line and proportion were rated slightly higher for the muslin that resulted from the flat pattern method than for the draped muslin. The overall appearance of the draped muslin was scored higher

than the muslin from the flat pattern method.

In Table IX, the mean criteria evaluation scores, standard deviations, and t-test values for Design 9 are presented.

TABLE IX. Differences Between the Means of Design 9 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.33	0.58	3.00	0.00	1.00
Line	3.33	0.58	3.33	0.58	0.00
Proportion	3.67	0.58	3.67	0.58	0.00
Overall Appearance	3.67	0.58	3.00	0.00	2.00

The mean scores for line and proportion were identical for the two methods. Although differences between the means for grain and overall appearance were noted, none of these were significant. These results may signify that either method could be used equally satisfactorily in the development of Design 9.

The mean criteria evaluations and t-test results for Design 10 are reported in Table X. The results showed that the muslin developed by the flat pattern method excelled in each evaluation criterion. The difference between the mean scores for proportion was significant at the 0.05 probabil-

ity level.

TABLE X. Differences Between the Means of Design 10 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.00	1.00	3.33	0.58	-0.50
Line	2.67	0.58	3.00	0.00	-1.00
Proportion	2.67	0.58	4.00	0.00	-4.00*
Overall Appearance	2.67	0.58	3.67	0.58	-2.12

*Significant at the 0.05 probability level.

The finding was contrary to the belief that the treatment of folds and blousing is more easily handled by the draping method than by the flat pattern method.

The differences between the criteria mean scores, standard deviations and t-test results for Design 11 are given in Table XI. The mean criteria scores for line and proportion of Design 11 were higher for the flat pattern method than for the draping method. On the whole, there was no significant difference between the two methods for this design. Therefore, Design 11 may be developed effectively through either the flat pattern method or the draping method.

TABLE XI. Differences Between the Means of Design 11 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.67	0.58	3.33	0.58	0.71
Line	2.67	0.58	3.00	0.00	-1.00
Proportion	3.00	1.00	3.33	0.58	-0.50
Overall Appearance	3.00	0.00	3.00	1.00	0.00

The means, standard deviations, and t-test values for Design 12 are displayed in Table XII.

TABLE XII. Differences Between the Means of Design 12 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.00	1.00	2.67	0.58	0.50
Line	2.67	1.53	1.67	0.58	1.06
Proportion	3.00	1.73	2.67	0.58	0.32
Overall Appearance	3.00	1.73	2.33	0.58	0.63

The mean scores for the four criteria were higher for the draped muslin than were those of the flat patterned muslin. Since the differences were not significant, this indicates that Design 12 could be executed equally well by either of the two methods.

Table XIII shows the mean criteria evaluation scores and t-test results for Design 13.

TABLE XIII. Differences Between the Means of Design 13 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	2.33	0.58	2.67	1.16	-0.45
Line	3.00	1.00	3.00	0.00	0.00
Proportion	3.67	0.58	3.00	0.00	2.00
Overall Appearance	3.00	1.00	2.67	0.58	0.50

The mean scores for proportion and overall appearance were higher for the draped muslin than for the flat patterned one, but the grain of the flat patterned muslin was rated slightly higher than that of the draped muslin. However, none of the differences were large enough to be significant.

Table XIV illustrates the means and standard deviations of the criteria evaluation scores and the t-values for Design 14. The muslin developed by the flat pattern method received higher evaluation mean scores for all criteria except grain than did the draped muslin, but none of the differences were significant. Overall, the results indicated that the flat pattern method was probably more

suitable for developing this design than was the draping method.

TABLE XIV. Differences Between the Means of Design 14 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.00	0.00	3.00	1.00	0.00
Line	2.67	0.58	3.00	0.00	-1.00
Proportion	2.67	0.58	3.67	0.58	-2.12
Overall Appearance	2.67	0.58	3.67	0.58	-2.12

The mean criteria evaluation scores, standard deviations, and t-values of the two methods for Design 15 are reported in Table XV.

TABLE XV. Differences Between the Means of Design 15 for the Two Design Methods.

Criteria	Method				t-value
	Draping		Flat Pattern		
	Means	SD	Means	SD	
Grain	3.33	0.58	3.00	0.00	1.00
Line	2.33	1.16	1.67	0.58	0.89
Proportion	3.00	0.00	2.00	0.00	∞ **
Overall Appearance	3.33	0.58	2.00	0.00	4.00*

*Significant at the 0.05 probability level.

**Significant at the 0.01 probability level.

The mean scores for the draped muslin of Design 15 were higher than those for the flat patterned muslin in all four criteria. The judges agreed that the proportion of the folds of the cowl was better in the draped muslin than in the muslin rendered by the flat pattern method. Overall appearance of the draped muslin was significantly superior to that of the muslin developed by the flat pattern method. These results imply that the draping method was the better method for the development of this design than was the flat pattern method.

The mean average scores, standard deviations and t-test results for all design details are shown in Table XVI.

TABLE XVI. Differences Between Mean Averages of the 15 Design Details for the Two Methods.

Design Details	Draping		Flat Pattern		t-value
	Means	SD	Means	SD	
1	3.92	0.14	3.33	0.38	2.48
2	3.58	0.14	3.25	0.50	1.11
3	3.75	0.25	2.58	0.29	5.29**
4	4.08	0.38	2.75	0.43	4.00*
5	3.33	0.29	2.00	0.43	4.44*
6	3.25	0.50	2.75	0.43	1.31
7	3.00	0.25	1.92	0.52	3.25*
8	2.92	0.52	2.83	0.58	0.19
9	3.50	0.50	3.25	0.25	0.78
10	2.75	0.25	3.50	0.25	-3.67*
11	3.08	0.52	3.17	0.38	-0.22
12	2.92	1.47	2.33	0.29	0.68
13	3.02	0.67	2.83	0.38	0.41
14	2.75	0.25	3.33	0.52	-1.75
15	3.00	0.50	2.17	0.14	2.77*

*Significant at the 0.05 probability level.

**Significant at the 0.01 probability level.

The mean average scores for each design detail showed that design 10, 11 and 14 rated higher when developed by the flat pattern method than when rendered by the draping method. The other design details were executed better when draped than when drafted by the flat pattern method.

Significant differences between the average mean scores were noted for Design 3, 5, 4, 10, 7 and 15 in the order of the greatest degree of significance. Design 3 was a bodice with gathers that originated from a slash at the neck edge either side of the bust. The design also incorporated small folds around the neck area emanating from the center back seam. Due to the complexity of this design, the placing of the folds and gathers in the proper position is more difficult than when developing less intricate designs. Better results are obtained when one can observe the behavior of the fabric relative to body contours during the execution of this design detail. Since this is possible through the draping method, it follows that the draping method would be more satisfactory for the development of this design than the flat pattern method.

Design 5 was a strapless bodice with a twisted yoke at the bust area. This design required a snug fit in the bodice yet retaining graceful folds in the yoke. A decrease in ease is more difficult to estimate when utilizing the

flat pattern method than when using the draping method. Thus, the draping method was a better and less difficult medium for achieving the desired effect of this design.

Design 4 was a cowl neckline. Since muslin has insufficient drapability for soft bias folds, a crepe fabric with a greater degree of drapability was utilized in rendering the shells for this design. Results revealed that a more acceptable product was obtained through the use of the draping method than by the flat pattern method.

Design 10 was a blousing bodice with emphasis in the back. Three deep folds originated from the center front seam of a yoke and radiated diagonally over the shoulder and down the back of the bodice. The average mean scores of the two methods for this design showed the flat pattern method to be more successful in the execution of the design than the draping method which was contrary to customarily expected result.

Design 15 was a cowl skirt. Again, when working with the bias grain, better results may be obtained when the behavior of the fabric can be observed during the development of a design. Therefore, the draping method was considered a superior technique for the execution of this design.

CHAPTER IV

SUMMARY AND RECOMMENDATION

The purpose of this study was to determine the more suitable design method for a group of specified design details when the draping and flat pattern methods were utilized. After analyzing numbers of design details, fifteen were selected for this study. Ten design details were located within the bodice area, while five were confined to the skirt area. Each design detail was rendered in muslin first by the flat pattern method and second by the draping method. Reference was made to a sketch of the individual design detail while being rendered in muslin. The sloper used for drafting the designs by the flat pattern method was developed using the measurements of the size eight dress form.

Each set or pair of muslin shells was presented for evaluation on two size eight dress forms with a sketch of the specified design detail centered between the two dress forms. A panel of three judges evaluated the muslin sets for each design utilizing a five-point rating scale. The data were subjected to Student's t-test for the difference between means in order to determine significant differences between each evaluation criterion and the total criteria

average of each design detail respectively. The 0.05 probability level was considered significant and the 0.01 probability level was considered highly significant.

Results showed that the draping method was more suitable for rendering Designs 3, 4, 5, 7 and 15, while the flat pattern method was more suitable for Design 10. All other design details could be produced equally well by either of the two methods.

Based on the results of this study, the following recommendations for future studies are proposed:

1. studies similar to the present one which include a larger number of different design details,
2. studies in which a variety of fabrics are utilized in executing specified design details.

APPENDIX A

CRITERIA FOR EVALUATION

AND

EVALUATION SHEET

CRITERIA FOR EVALUATION

GRAIN
1. Is the grain positioned correctly?
2. Does the grain help the design detail to enhance the desired effect of the garment?

LINE
1. Are the lines rhythmical?
2. Are the lines placed at the most becoming position?

PROPORTION
1. Is the design detail in proper proportion?
2. Is the design detail proportionate to the total silhouette?

OVERALL APPEARANCE
1. Is there general smoothness within the presented unit?
2. Is there harmony and balance?

EVALUATION SHEET

		Design Number	Design Number
GRAIN			
5.	Excellent		
4.	Good		
3.	Average		
2.	Poor		
1.	Unacceptable		
LINE			
5.	Excellent		
4.	Good		
3.	Average		
2.	Poor		
1.	Unacceptable		
PROPORTION			
5.	Excellent		
4.	Good		
3.	Average		
2.	Poor		
1.	Unacceptable		

OVERALL APPEARANCE

5.	Excellent	_____	_____
4.	Good	_____	_____
3.	Average	_____	_____
2.	Poor	_____	_____
1.	Unacceptable	_____	_____

APPENDIX B

PLATES OF

THE 15 SPECIFIED DESIGN DETAILS

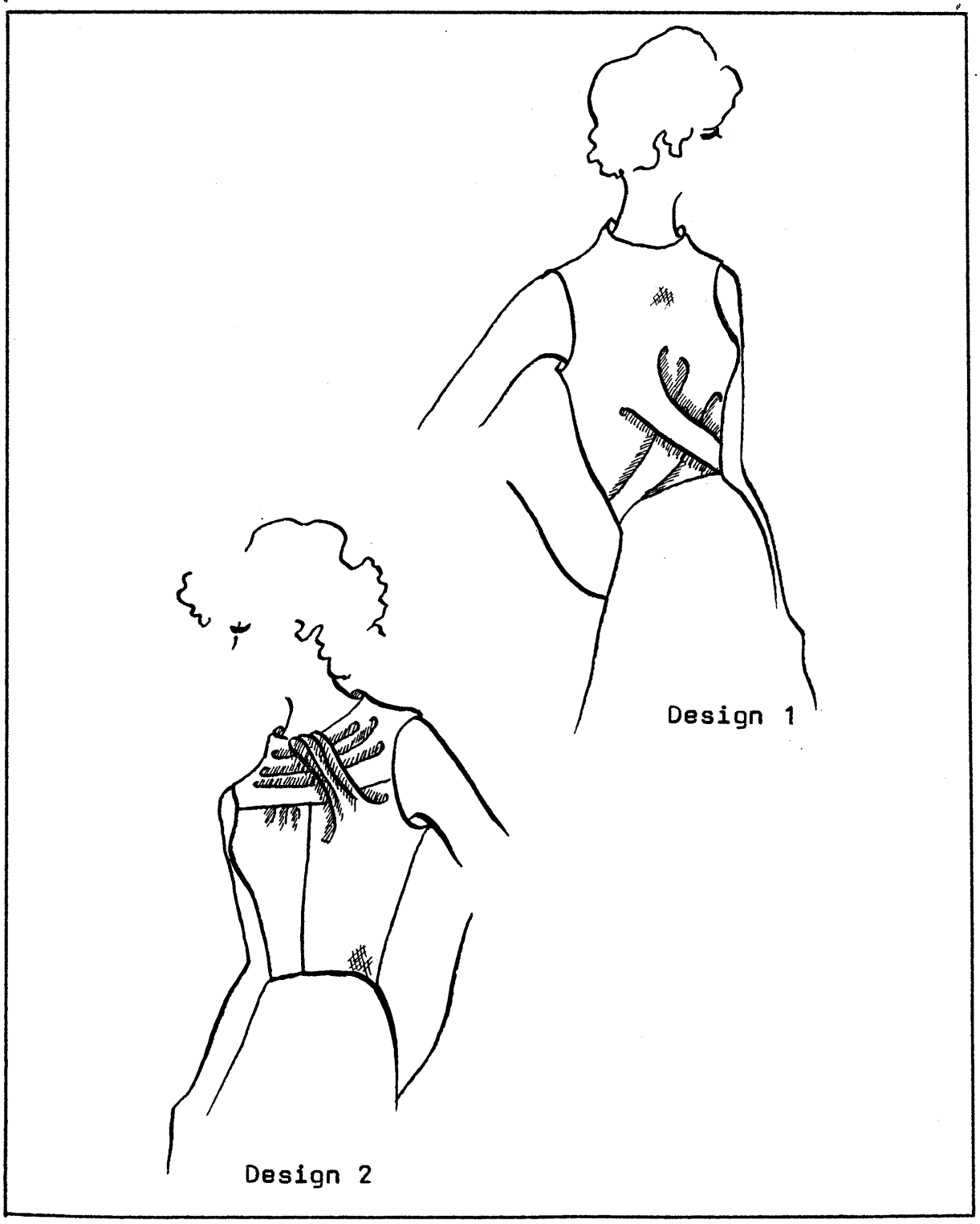


Plate 1 - Design Detail 1 and Design Detail 2

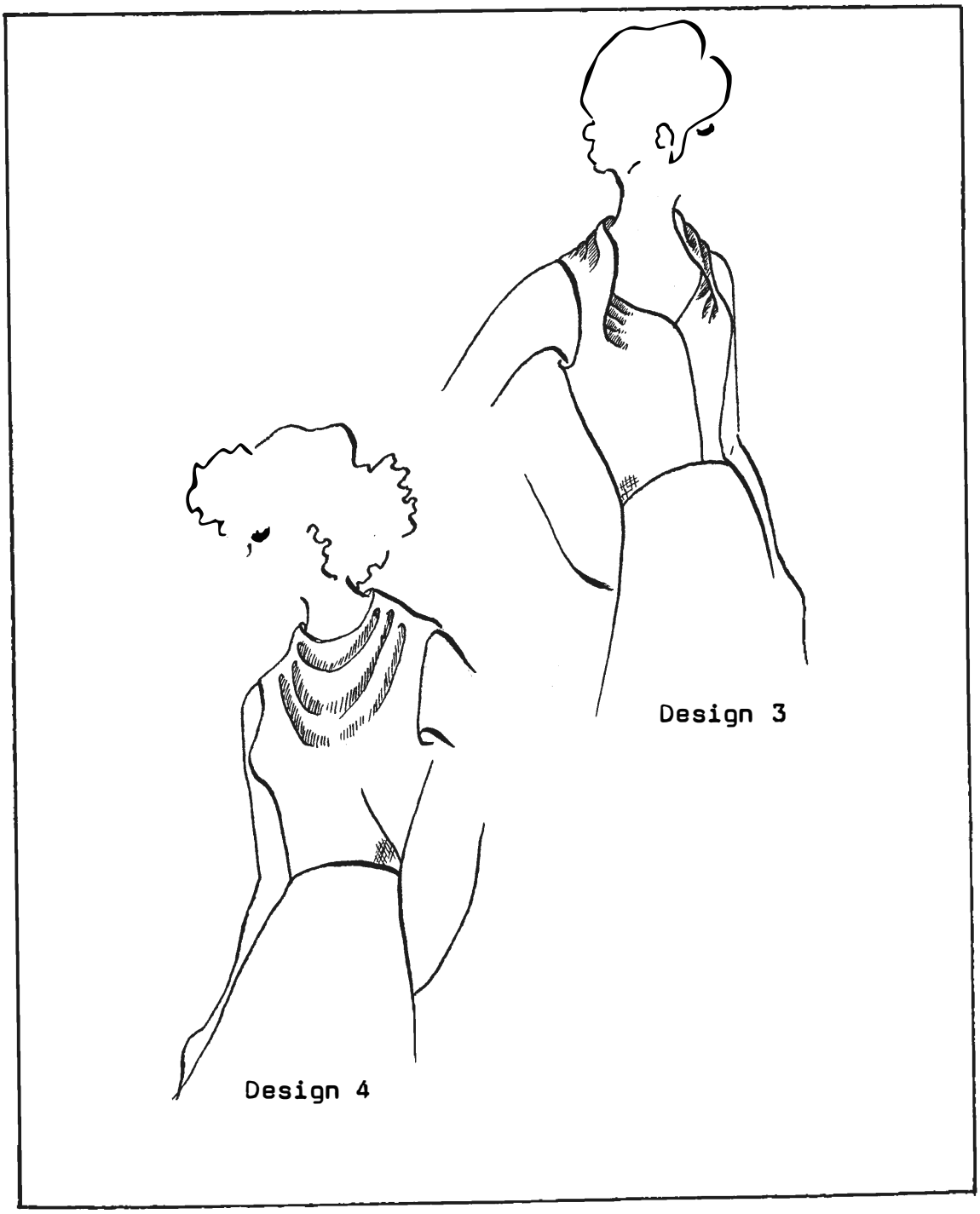


Plate 2 - Design Detail 3 and Design Detail 4

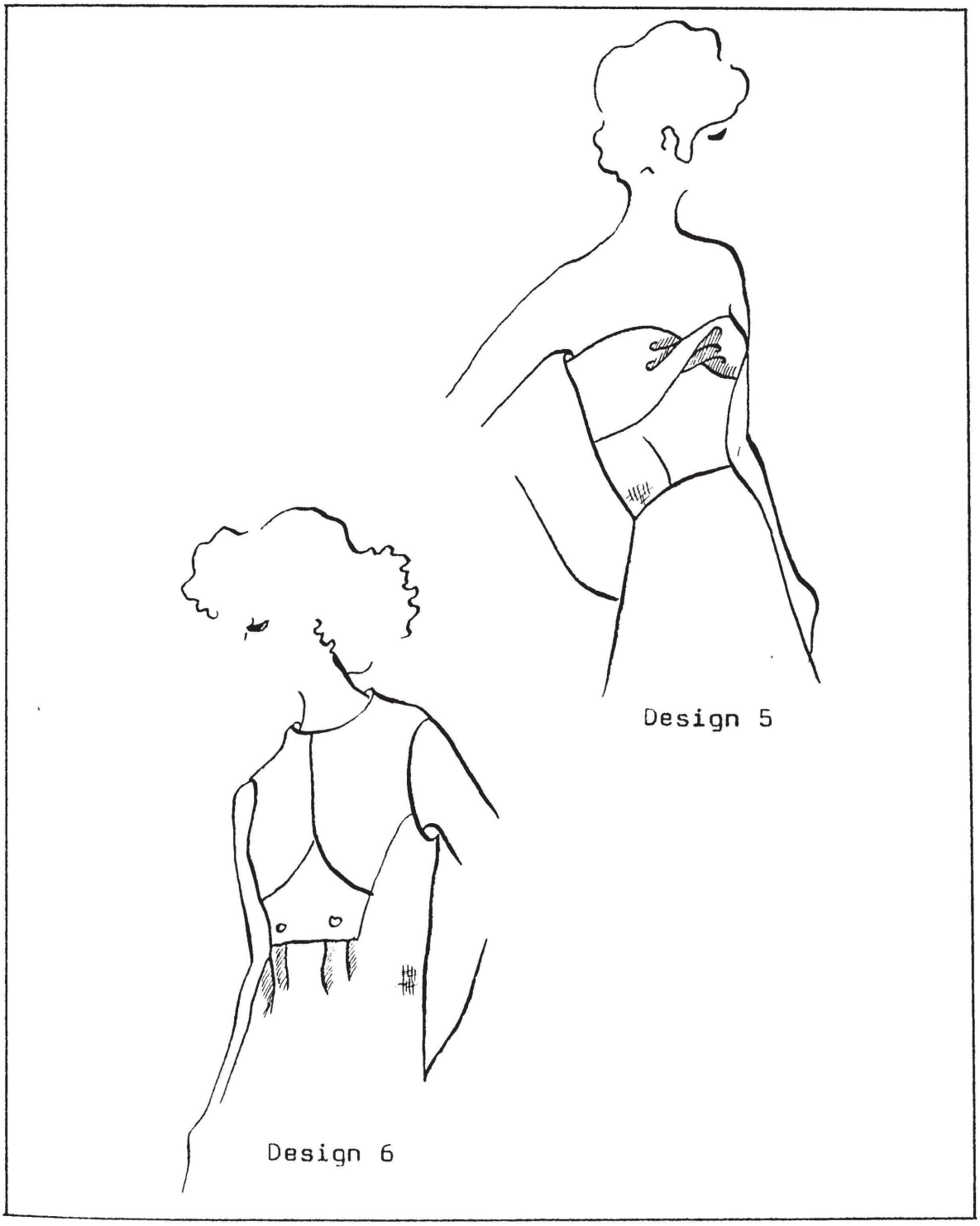


Plate 3 - Design Detail 5 and Design Detail 6

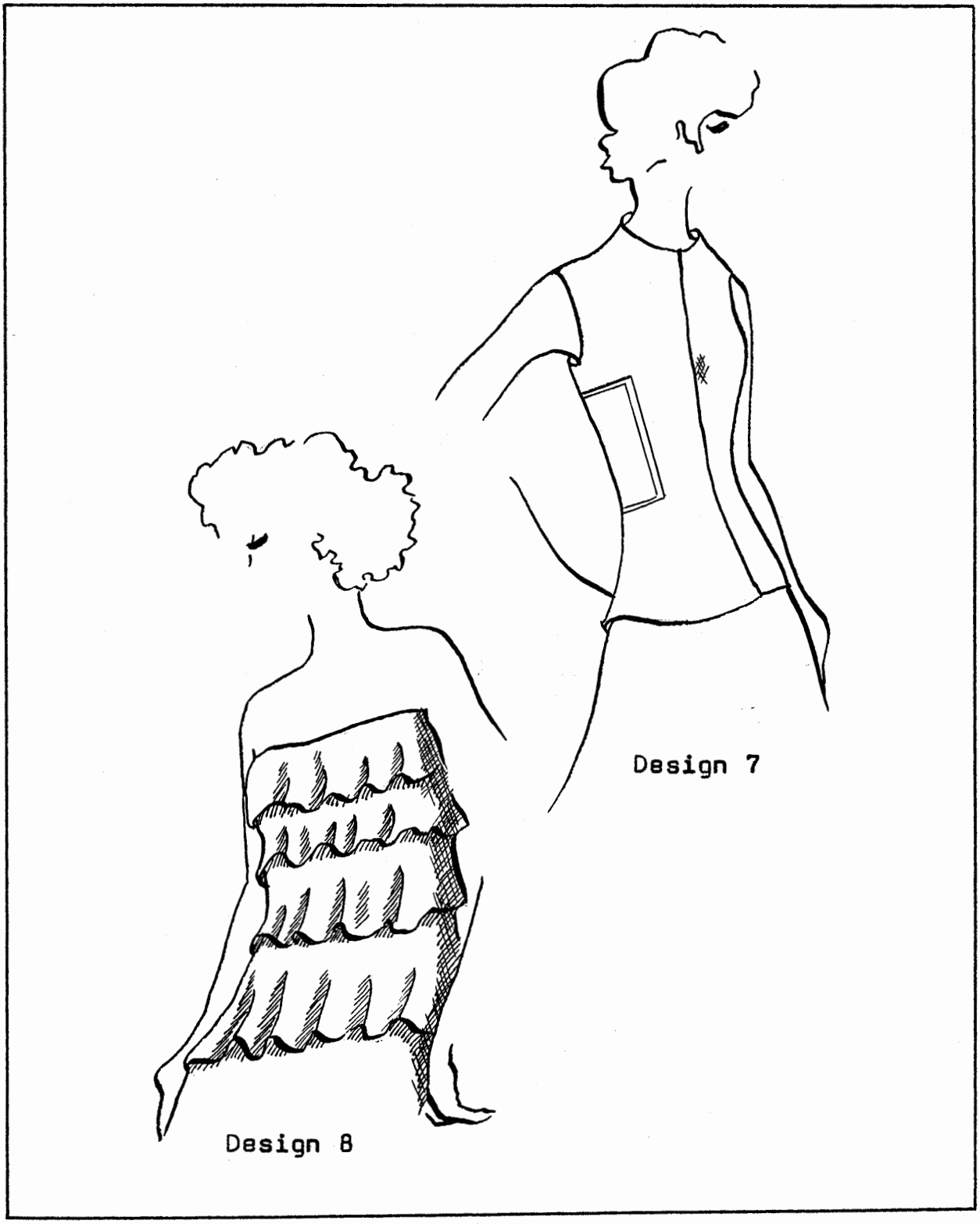


Plate 4 - Design Detail 7 and Design Detail 8

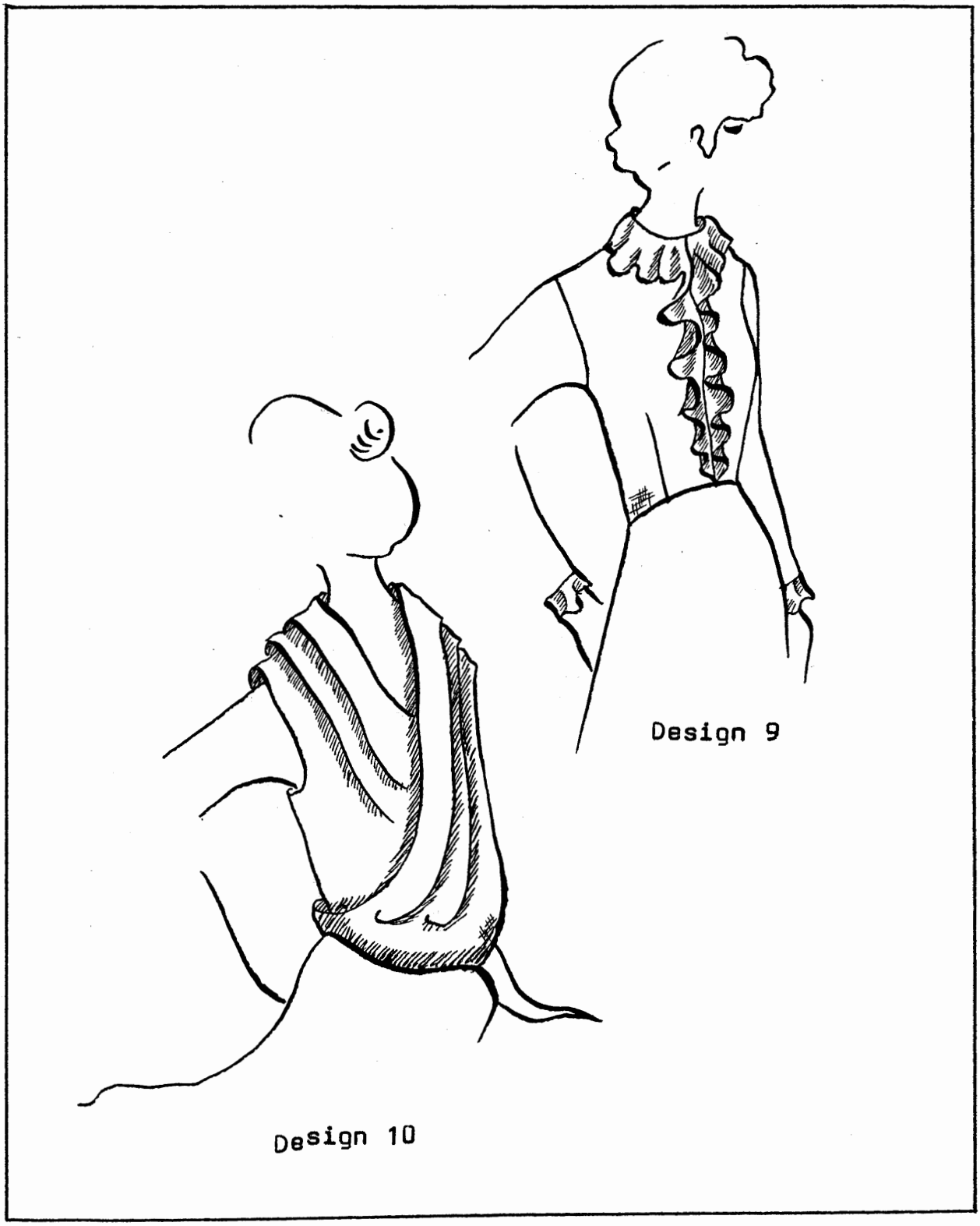


Plate 5 - Design Detail 9 and Design Detail 10

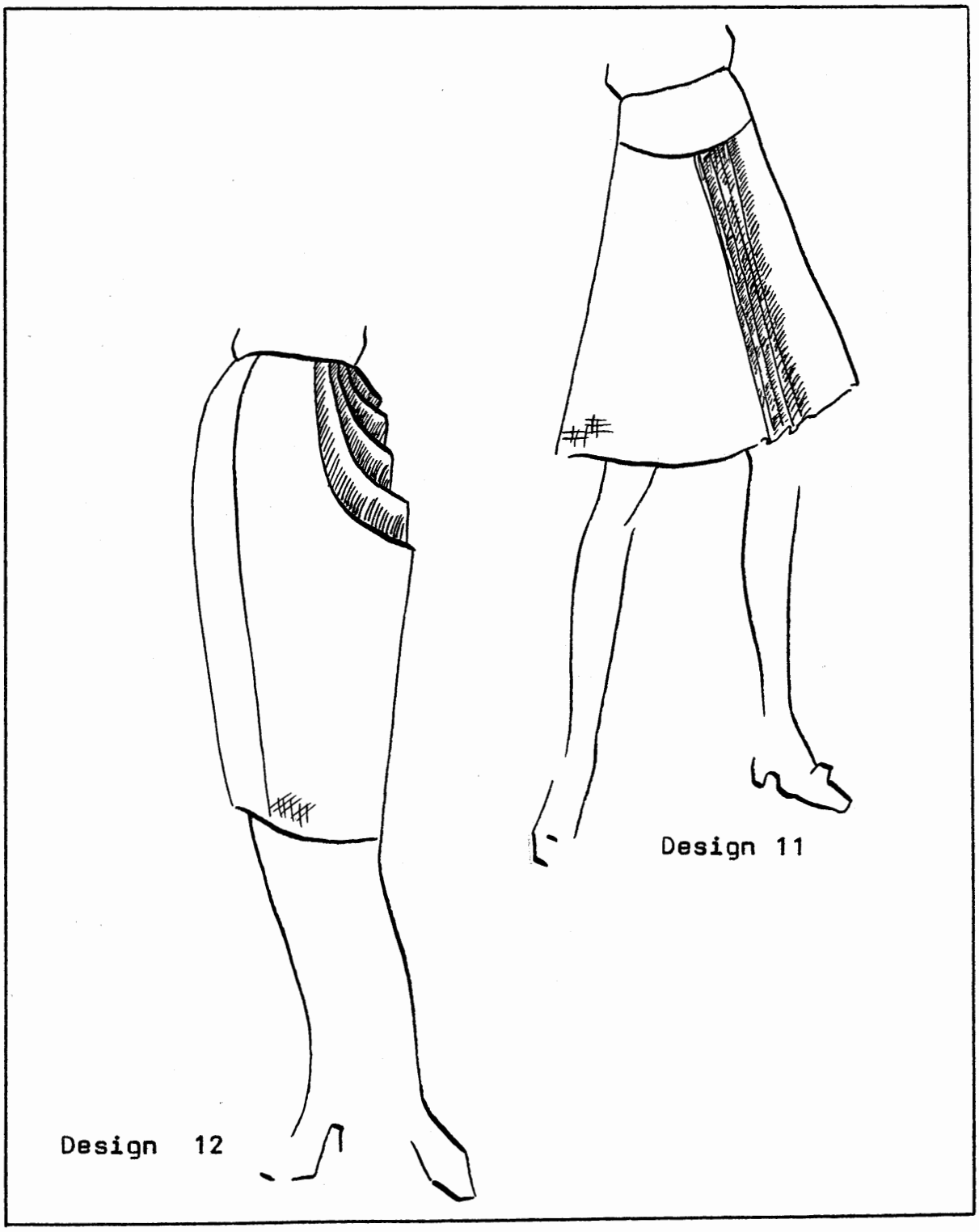


Plate 6 - Design Detail 11 and Design Detail 12

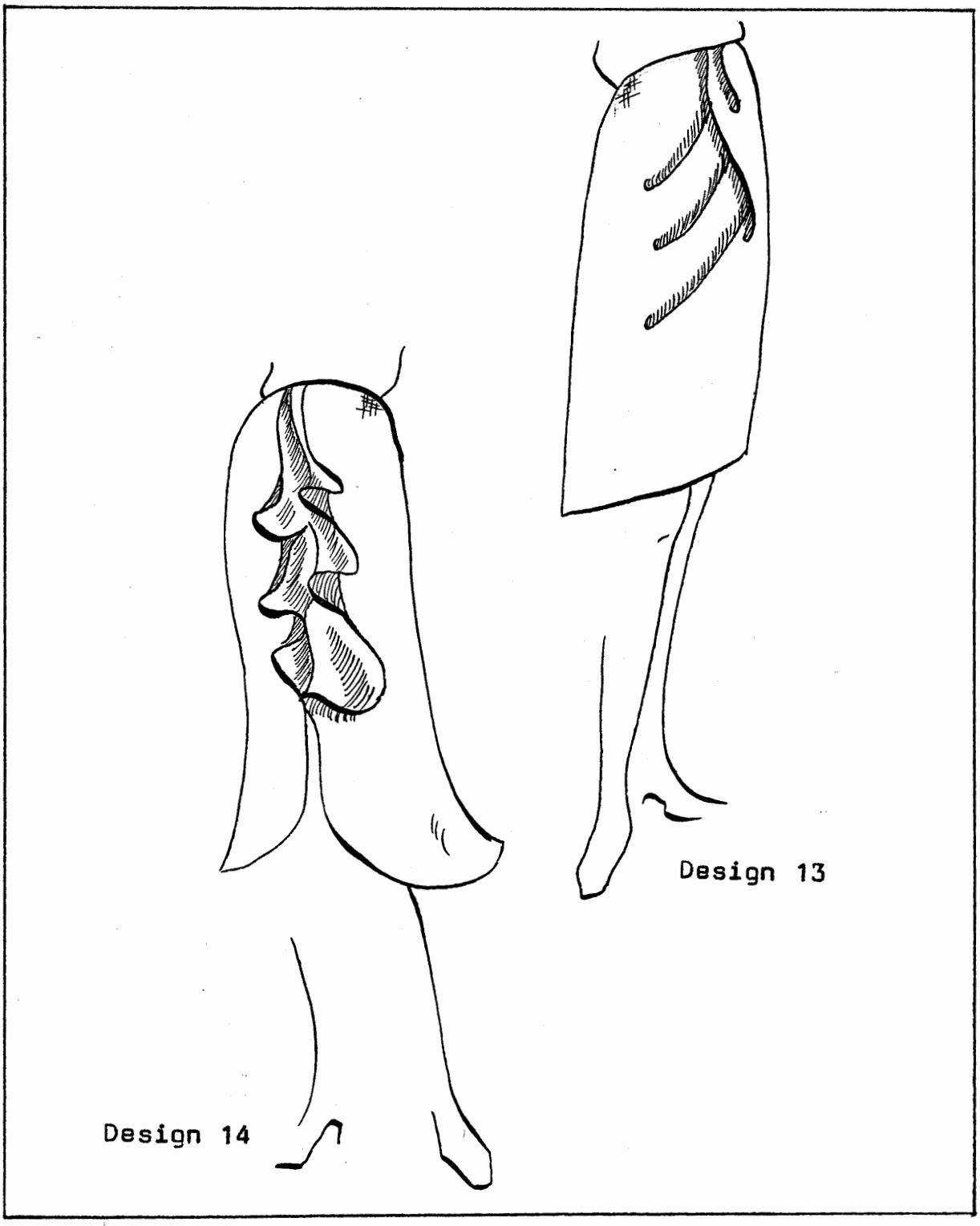
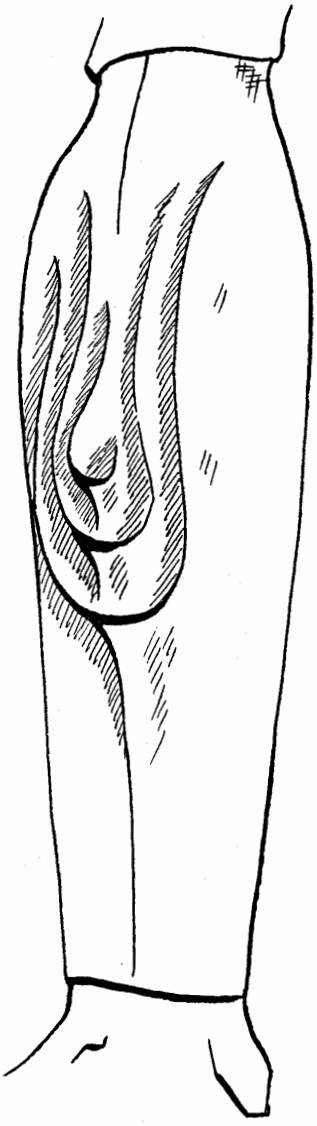


Plate 7 - Design Detail 13 and Design Detail 14



Design 15

Plate 8 - Design Detail 15

BIBLIOGRAPHY

1. Arnold, Janet. Patterns of Fashion. London: Wace and Co., Ltd., 1964.

2. Babcock, Mary Jo Charvat. "A Comparative Investigation of Variance Between Basic Patterns in Garment Fit." Master's thesis, Texas Woman's University, 1970.

3. Baer, Anna Margrete. "Perception of Line and Design in Clothing." Ph.D. dissertation, Utah State University, 1970.

4. "The Birth of a Pattern." Vogue Patterns, January/February 1976, pp. VI-XIV.

5. Brewster, Jackie McClary. "Adequacy of College Courses for Meeting the Needs of the Fashion Designer." Master's thesis, Texas Woman's University, 1974.

6. Brockman, Helen. The Theory of Fashion Design. New York: John Wiley and Sons, Inc., 1965.

7. Domigan, Ngaire Margaret. "Study of Use of Standard Dart and Seam Variations as Sources of Design in Dress." Master's thesis, Michigan State University, 1954.

8. Eddy, Josephine Florence and Wiley, Elizabeth C. B. Pattern and Dress Design. New York: Houghton Mifflin Co., 1932.

9. Evans, Mary. Draping and Dress Design. Michigan: Edwards Brothers Inc., 1935.

10. Evans, Mary. Costume Throughout the Ages. Philadelphia: J. B. Lippincott Co., 1930.

11. Fisher, S. Clarice. "A Comparative Study of the Fit of Basic Dresses Constructed from the Drafted Japanese Basic Dress Pattern and the Simplicity Commercial Basic Dress Pattern." Master's thesis, Stout State University, 1969.

12. Hager, Margaret Wood. "The Costume of Four Selected

Cultures; Analyzed on the Basis of Line Factors." Master's thesis, Pensylvania State University, 1963.

13. Heagney, Eileen; Lyle, Dorothy Siegert; and Wilbur, June. "Creative Talents in Textile and Clothing Are Encouraged by New Educational Instrument." Journal of Home Economics, Vol. 58, No. 4. (April 1966), pp. 266-272.

14. Hillhouse, Marion S. and Mansfield, Evelyn A. Dress Design - Draping and Flat Pattern Making. New York: Houghton Mifflin Co., 1948.

15. Ho, Teresa Lain. "Comparison of Ease Differential and Shape in Parallel-Slash and Radiating-Slash Sleeves with Same Amount of Gather Added at Cap." Master's thesis, Southern Illinois University, 1970.

16. Hollen, Norma R. Pattern Making by the Flat Pattern Method. Mineapolis: Burgess Publishing Co., 1961.

17. Horn, Marilyn J. The Second Skin. New York: Houghton Mifflin Co., 1968.

18. Hosting, Ruth and Pistolese, Rosana. History of Fashions. New York: John Wiley and Sons, Inc., 1970.

19. Jaffe, Hilde and Relis, Nurie. Draping for Fashion Design. Reston: Reston Publishing Co., Inc., 1973.

20. Kolodny, Rosalie. Fashion Design for Moderns. New York: Fairchild Publications, Inc., 1969.

21. Kopp, Ernestine; Rolfo, Vittorina; and Zelin, Beatrice. Designing Apparel Through the Flat Pattern. 4th ed. New York: Book Division, Fairchild Publications, Inc., 1975.

22. Kopp, Ernestine; Rolfo, Vittorina; and Zelin, Beatrice. New Fashion Areas for Designing Apparel Through the Flat Pattern. New York: Book Division, Fairchild Publications, Inc., 1972.

23. Moulton, Bertha. Garment Cutting and Tailoring for

Students. London: B. T. Batsford Ltd., 1967.

24. Payne, Blanche. History of Costume. New York: Harper and Row, 1965.

25. Roberts, Sherrell. "Dress Forms of Rigid Polyeurethane Foam." Master's thesis, Iowa State University, 1963.

26. Scouten, Julie Briggs. "Modification of McKibben Bodice Draft and Development of Sleeve Draft to Be Used by Novices." Master's thesis, Iowa State University, 1967.

27. Sinclair, Amy L. "Contour of Garment Versus Body Contour Within: a Comparison Between Garments Made by Draping and by Flat Pattern Techniques." Master's thesis, Ohio State University, 1974.

28. Waugh, Norah. The Cut of Women's Cloth, 1600-1930. London: Faber and Faber Ltd., 1968.