Combined Proceedings

EASTERN, CENTRAL, and WESTERN REGIONAL MEETINGS

ASSOCIATION of COLLEGE PROFESSORS of TEXTILES and CLOTHING

1976
PROCEEDINGS

EASTERN, CENTRAL, AND WESTERN REGIONS

ASSOCIATION OF COLLEGE PROFESSORS

OF

TEXTILES AND CLOTHING

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EASTERN REGION
ASSOCIATION OF COLLEGE PROFESSORS
OF
TEXTILES AND CLOTHING

Edited by
Dianne Walker and Jane Harvey
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EASTERN REGION
ASSOCIATION OF COLLEGE PROFESSORS OF TEXTILES AND CLOTHING
28th Annual Conference
Roosevelt Hotel
New York, New York
October 27–30, 1976

PROGRAM

WEDNESDAY, OCTOBER 27

3:00–4:00 p.m. ACPTC—ER Regional Council Meeting
4:00–4:30 Regional Council—Local Arrangements Committee
8:00–10:00 Registration ................................................ Oval Room
New Instructional Resources
Happenings in New York
Wine and Cheese ........................................................ Oval Room
National Notion Association

THURSDAY, OCTOBER 28

8:00–8:45 a.m. Registration ........................................ Oval Room
8:45–9:00 Opening Session ........................................... Terrace Room
Presiding: Barbara S. Stowe
Welcome: Ms. Dorothy Choitz, Program Manager for Instructional Schools,
J. C. Penney Company, Inc.
9:00–10:15 Panel Discussion: International Influences on Fashion
Panelists:
—Ms. Mary McFadden, Designer and President, Mary McFadden, Inc.
—Mr. Richard Karfunkle, Senior Vice President, Lehman Brothers—Investment Bankers
Moderator: Mr. Robert Riley, Director, Design Laboratory, Fashion Institute of Technology
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—Ms. Nina Lewin-Mayer, President, Nina Lewin, Inc.
Moderator: Mr. Robert Riley, Director, Design Laboratory, Fashion Institute of Technology
2:45– 5:00  New Approaches from the Classroom and Laboratory .......... Terrace Room
Presiding: Mary Ann Gaydos

(2:45– 3:30)  Textile Testing—An Art or A Science?: Mr. Braham Norwick, Vice President
and Technical Director, Joseph Bancroft and Sons Company

(3:45– 5:00)  Instructional Trends in Textiles and Clothing

SATURDAY, OCTOBER 30

9:00–11:15 a.m.  Closing Session ................................................. Terrace Room
Presiding: Nancy C. Saltford

Panel Discussion: Getting Into the Textiles and Clothing Professions
New York HEIB Chapter
Moderator: Ms. Dorothy Choitz, J. C. Penney Company, Inc.
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Susan Stark
Nell Ollinger
Christine Pratt
Darlene Kness

Phyllis Tortora, Chairperson
Susan Stark
Nell Ollinger
Christine Pratt
Darlene Kness

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Oris Gilsson, Chairperson
Jane Harvey
Wilma Green

Oris Gilsson, Chairperson
Jane Harvey
Wilma Green

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Darlene Kness
Mary Barry

Dianne Walker, Chairperson
Jane Harvey
Darlene Kness
Mary Barry

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Lynn Levy
Jeanette Bowker

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Lynn Levy
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L. Gurel, Chairperson
Enid Tozier
Barbara Densmore
Evelyn Stout
Mary McFadden

When I think of fantasy in fashion, looming foremost in my mind is a unique fabric—a fabric that no one has ever seen before, a fabric that cannot be placed in history, a fabric that flatters the delicate complexion of a woman. In the design of this fabric I like strong motifs that are connected like streams across landscapes. These streams flow across a woman’s body creating continuous fluid motion. In the beginning I worked with cloud patterns on a single-color hand painted silk batik, progressing to multicolors entwined with serpentine ribbons, strange calligraphies, or even imaginary wave patterns. Color combinations are an area that I find fascinating, combining rusts, celadons, saffrons. Textural variety requires a range of resources. With the myriad blends we have available in the United States, our ready-to-wear can be the most imaginative in the world.

Richard Karfunkle

Waves and cycles characterize fashion and business. You’re hearing about fashion from my “fellow” panelists, and you’ll hear—probably more than you’ll ever want to know—about international trade and textiles tomorrow morning. I’ve defined my role as a reflection of the potpourri of elements that, at least in part, feed into the fashion, trade, and business cycle arenas.

First, let me emphasize that I am an economist—a business economist, as opposed, I suppose, to an academic, labor, home, or government economist—one whose forte is forecasting, with particular expertise in the consumer and textile economic sectors. I know your field, but from an entirely different perspective—one rooted in the fundamental forces as seen through the eyes of a fiber producer.

Now, let me offer a couple of notes on “fashion.” The New York Times on Tuesday, October 26, 1976, reviewed Quentin Bell’s On ‘Human Finery with a catchy headline, “Why Fashion Enslaves.” For your edification, and to entice you to buy and read this second edition of a 1949 treatise, I am going to paraphrase several catechisms from Mr. Haupt’s perceptive review:

1. Women are more slavish to fashion than men (unless or until the peacock revolution rises again).
2. War, nationalism and inflation do not impact consistently over time on fashion, nor does the intervention of a higher power. Fashion changes for the following three reasons:

(1) Clothes and status correlate (the capacity to spend: the more the better). (2) Style change can be explained by class competition (since, in the West, the aristocracy has set the standard of show). (3) The Industrial Revolution has been the catalyst for such class competition.

3. Thus, political events which alter class structure do influence the course of fashion (shades of Marx, class war, and Veblen’s “conspicuous consumption”).

4. As for fashion in the future: with the triumph of the middle class in the West, fashion as we have known it is coming to an end. Henceforth, the student body, the traditionally experimental segment of society, will set our fashion trends.

What about the origins of a fashion? Fashion can be born at home or abroad, as a result of a cutter’s creativity, a weaver’s wisdom, a knitter’s knack, a fiber producer’s flair, and/or a machinery manufacturer’s machinations. To cite an example, let’s look at the synergy that evolved from the coincidental advent of the carpet tufting machine and BCF nylon carpet yarn. For nearly fifteen years, broadloom carpet production and sales were the fastest growing major segment of the textile economy’s end-use market matrix. In the news this week—from abroad—is Yves St. Laurent’s “corselette,” as well as an attempt to export a miniskirt/minidress revival to the U.S. Yes, overseas “fashion” influences generate the most headlines but the least textile market impact (measured in pounds of product consumed in a particular end-use application). An example is high-styled women’s wear—Thorsten Veblen’s area of “conspicuous consumption.”

Relative international costs, to a large extent, determine the magnitude of U.S. imports of items like cotton T-shirts, sweaters, and cotton print cloth. However, recent history shows that it still is possible to obsolete ordered imported goods before they reach the retail counters. The mechanism, of course, is a fashion counterattack. Often, at least in the U.S. textile pipeline, it has been the fiber producer who has retained the designer/specialist who creates a “more fashionable” sweater, for example, that blunts the import tidal wave, seemingly overnight. This actually occurred in the sweater market in the late 1960s.

Until the devaluations of the U.S. dollar, the energy crisis, etc., during the 1971–73 interval, and the nearly concurrent developments of a series of bilateral textile and fiber quota agreements as offsets to the quasi-open-the-door-for-imports policy under the several multinational agreements of the GATT (General Agreement on Tariffs and Trade), “tidal wave” was not an overstatement regarding textile import penetration into the U.S. marketplace. Relative costs have played in our favor since then, as the U.S. inflation and wage cost bias have been less pronounced than those of our trading partners. Nonetheless, often in tough business times, exports are looked at as incremental volume to which only incremental—not full—production costs should be applied. Thus, in recent quarters, U.S. textile imports have resumed their upward march, fueled in part by the carryover of unutilized quota limits. Of course, our economy currently is sounder than most today.

Measuring U.S. imports of textile fibers, fabrics and manufactured products as a percent of U.S. domestic fiber consumption, the trend in recent years has looked like this:

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports as % of Domestic Fiber Consumption</th>
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<tr>
<td>1970</td>
<td>11.5%</td>
</tr>
<tr>
<td>1971</td>
<td>12.9%</td>
</tr>
<tr>
<td>1972</td>
<td>12.9%</td>
</tr>
<tr>
<td>1973</td>
<td>11.1%</td>
</tr>
<tr>
<td>1974</td>
<td>10.7%</td>
</tr>
<tr>
<td>1975</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

In 1976, thanks to an improving U.S. economy, vis-à-vis the rest of the world, textile imports have rebounded, probably to double-digit levels. In part, though, the opening of the trade window between the U.S. and mainland China permitted imports, especially of 100 percent cotton print cloth.
cloth fabric, to soar. Imports in the cotton manufacturers area doubled in 1976 versus 1975; during the same time, imports in the manmade fiber area rose “only” 50 percent.

The deviation—that is, a 50 percent increase versus an increase of 100 percent—is statistically significant. It is also fashion significant. At the margin the “natural look” has had an impact, fashion-wise. Because of a 10 percent attrition in cotton system spindles in the past half-decade, which in part reflected the doubleknit surge, and because of the growth in U.S. textile mill preference for manmade fibers, especially noncellulosics, like polyester and nylon and acrylics in the woven goods area, a marginal fashion development has had a major statistical impact, as just cited, via the import route. Then, too, cost/price relationships—full or incremental—may not be meaningful to the People’s Republic of China—in the context of a government-dominated trade posture. Nonetheless, cotton fabric imports averaged close to 31MM monthly pounds in the nine months ended June 30, 1976, compared to 19MM monthly in calendar 1975 and 23MM in 1974.

The U.S., in spite of dramatic improvement in her comparative economic advantage since 1971, still is least cost competitive in labor intensive areas like apparel cutting and sewing. Hong Kong, Korea, Taiwan, and China are the countries with the fastest growing shares of textiles imported by the U.S.

Dependence on imports opens Pandora’s Box. Quality, price-cost relationships during an unexpected business cycle phase, timely deliveries, potential fashion obsolescence: these are the tradeoffs. Nonfashion-related imports, except in shortage conditions, serve to damp prices (anti-inflationary) and to squeeze domestic suppliers’ profit margins (anti-capital investment).

Though you may not believe this concluding statement, I believe that it is the absence of a major fashion focus currently that has contributed to some measure of the “pause” in the consumer demand cycle at retail for textile products, for apparel in particular.

Replacement demand, value-oriented, impulse and discretionary purchases, it is true, have enabled the end-use market consumer—you and me with our other hats on—to pull the textile industry and the entire U.S. economy out of the severest recession in post-war America. But lacking the catalyst of pants suits for women, double knit leisure and tailored clothing for men, or jeans and denim for all—in the absence of a brand new fashion focus—periods of pause in consumer demand may become the rule rather than the exception. What country that a fashion-oriented stimulus comes from is not important? The birth—anywhere—of a “new look” capable of making entire wardrobes obsolete would be hailed everywhere not as a mini-development but a maxi-happening.

Due to transcribing difficulties, Nina Lewin-Meyer’s speech was not available for inclusion in the proceedings.
The United States is presently party to eighteen bilateral agreements and one multilateral agreement, the Multifiber Arrangement (MFA), which deal with textile and apparel imports. To these substantive agreements may be added "consultation" agreements with half a dozen or more countries. These agreements, together with additional enforcement authority contained in Section 204 of the Agricultural Act of 1956, are the legal basis for a program which regulates—and restrains—imports of yarns, textiles, and apparel into the United States.

Before commenting on the history and present operation of this textile import program, I think that a few numbers should be mentioned just to place in perspective the importance of the textile and apparel industries in the United States and the potential impact of similar industries in other countries.

---About 2.3 million persons are now employed in these two industrial sectors in the U.S.

---Approximately 2.4 million were employed in 1968.

---These two sectors now constitute about 10–12 percent of the manufacturing work force in the United States.

---During the one-year period ending on September 30, 1976, the U.S. imported thirty-six million sweaters, made primarily of manmade fiber, from South Korea alone. So far during October 1976, an additional five hundred thousand dozen (that is, six million) sweaters were imported from that country.

---In India, there are some six million looms operated by hand, each capable of producing from three to eight yards of fabric per day. That is about thirty million yards of cloth each day, ten to eleven billion yards per year, all made by hand.

---U.S. imports of yarns, raw fibers, textiles, and textile products during the first five months of 1976 were valued at nearly two billion dollars.

---Our balance of trade deficit in this sector generally runs to from about one to two billion dollars per year.

---The cost of recording and analyzing textile trade statistics and of negotiating and enforcing the textile restraint program is significant. Within the State Department alone, three foreign service officers and two secretaries work nearly full time on the program, and the State Department is by no means the agency with the largest staff concerned with textiles. The Departments of Commerce, Treasury and Labor, and the president's special trade representative are also deeply involved.
Management and labor also take the program very seriously. The Department of Commerce's Management-Labor Textile Advisory Committee has at least thirty members who meet with government officials about once a month, to give their advice about a wide variety of matters, mostly problems. Many of the members fly to Washington to attend these meetings.

Negotiations and consultations seem never ending. I was part of a team which traveled over thirty thousand miles during August alone to meet with government officials of seven major textile producing countries. Michael Smith, the chief textile negotiator, who was originally asked to address you today, is now in Europe; many of us who deal with the program will return to Geneva at the end of November, to begin a review of the operation of the MFA, and, we hope, to renew it.

This, I believe, gives an idea of the size and importance of textile trade and the impact of the restraint program.

Although all of our present agreements were negotiated since the Multifiber Arrangement became effective in January 1974, the basic concept in our bilateral textile agreements, that of exporting countries restraining their exports to us, dates back at least to 1935, when President Roosevelt named a cabinet committee, consisting of the secretaries of commerce, state, agriculture and labor, to study textile import problems and to recommend solutions. This committee recommended a voluntary and friendly agreement with Japan to limit shipments of cotton products to the U.S.

World War II eliminated the import problem for a number of years, but by the middle of the 1950s Japanese cotton exports to us had grown sharply. This increase, coupled with the difficulties of the American cotton textile industry, led to calls for restrictive legislation, including state laws which involved discrimination against Japanese textiles.

In 1956 President Eisenhower called for negotiations with Japan. After detailed discussions with the U.S., and in light of their experience with a one-year control program, Japan introduced a five-year voluntary control program covering cotton textiles, effective January 1957. The purpose was to effect "orderly marketing of Japanese cotton textiles by avoiding excessive concentration in any particular period or any particular item and by continued efforts to achieve broader diversification of cotton textile exports from Japan to the U.S."

I understand that the Japanese textile export control program was only one of a number of control programs established by the Japanese during the 1950s to encourage the removal of restrictions, directed at Japanese exports, maintained by other governments. The general technique utilized in the original Japanese program is followed in today's program. An overall annual limit for exports to the U.S. is set for all covered products; within this limit, separate ceilings are set for specific textile and textile product categories.

As an example of how the textile trade has changed since Japan instituted controls, we might look at velveteen. The 1956 limitations on velveteen were the subject of careful negotiations and detailed written communications. In 1964 a visa system was instituted to facilitate administration of the agreements. By 1976, velveteen was no longer subject to specific limitations, and the visa system was dismantled.

A single agreement, however, even with the largest supplier, was not sufficient to regulate imports. As you well know, textile technology is portable, and the industry is noted for high percentage of semi-skilled or operative employees. The comparative advantage to be gained from low wage levels is an extremely important factor in determining the siting of apparel manufacturing units. While Japan enforced strict controls, Hong Kong's exports of cotton textile products increased sharply. This not only reduced the effectiveness of the restraint program but was patently unfair to Japan.

In May 1961 President Kennedy instructed the secretary of state to arrange for a conference of the principal textile importing and exporting countries, to seek an understanding which would
provide a basis for trade and avoid undue disruption of established industries. In June 1961 the major importing countries met and agreed on the desirability of intergovernmental action under GATT auspices. In July a GATT sponsored conference was held and an arrangement covering cotton textiles, known as the Short-Term Arrangement, was negotiated. It was in effect for about one year, while a larger-term arrangement known as the Long-Term Arrangement was negotiated. This agreement, which again covered only cotton products, entered into effect in 1962, initially for a five-year period. It was renewed a number of times and continued in effect until January 1, 1974, when the present agreement, the Multifiber Arrangement, went into effect.

As its name indicates, the MFA differs from the LTA primarily in that wool and manmade fiber products as well as cotton products are covered. In order to enforce the program, we attempted to keep statistics on the amount of imports by fiber. For the United States, imports of manmade fibers products are the most important segment in terms of their value. Although wool imports are now relatively small, the domestic suit industry has been affected. As you know, cotton is now enjoying a resurgence of demand. However, the existence of blends makes impossible precise compilation of import information by fiber.

The preamble of the Multifiber Arrangement states that its goal is to permit nations, within a multilateral framework, to take cooperative and constructive action with respect to textile trade. The treaty recognizes both the importance of textile exports to the earnings of many developing countries and the situation which may exist in importing countries, usually developed when high import levels threaten or even actually disrupt markets. Its stated objective is thus "to achieve the expansion of trade, the reduction of barriers to such trade and the progressive liberalization of world trade in textile products, while at the same time ensuring the orderly and equitable development of this trade and avoidance of disruptive effects in individual markets and on individual lines of production in both importing and exporting countries" (Article I, Section 2).

This statement of objectives nicely balances potentially inconsistent goals. Putting it into practice is much more difficult. The basic mechanism for balancing the needs of exporting and importing countries is found in Article IV of the MFA, which permits participating countries to conclude bilateral agreements, on mutually acceptable terms, in order (1) to eliminate real risks of market disruption in importing countries and disruption of the textile trade of exporting countries and (2) to ensure expansion and the orderly development of trade in textiles and the equitable treatment of participating countries. It is under this provision that the U.S. has entered into the eighteen bilateral agreements that I mentioned before.

Perhaps this would be a good time to describe the structure of a bilateral agreement. First of all, some agreements, such as those with India and Egypt, cover only cotton products; the rest, such as those with Korea and Colombia, cover cotton, wool, and manmade fiber products. A few other agreements, with countries which are not now major suppliers to the U.S., but which have been at some time in the recent past and have the potential to be so again, are what we term consultation agreements; they provide simply that if there is market disruption, or a threat of market disruption, with respect to a particular product, the two countries will get together promptly to "consult" about the problem.

The agreements that actually set limits do so, I believe, in a relatively flexible manner and in amounts related, at least in part, to historical trade patterns. First of all, an overall limit for all covered imports is set; it is expressed in square yards equivalent. Sublimits may then be set for each product type—apparel, made-up goods, and fabrics and yarns. Finally, specific product categories—men's and boys' wool suits are one example, women's blouses another—are given specific limits if imports are believed likely to have potential for serious impact on the U.S. market.

Because these agreements generally run for three years and fashion trends can cause import patterns to change rapidly, it has been felt necessary to
provide some limit on imports in each of the 137 product categories not subject to a negotiated specific limit. This is accomplished by a standard provision stating that, for each category not explicitly subject to a limit, the exporting country will not permit exports of that product to exceed an annual amount, called a "consultation level," of seven hundred thousand or one million square yards equivalent (one hundred thousand in the case of wool products) without permission from the U.S.

I mentioned that orderly growth in the textile trade is one of the objectives of the Multifiber Arrangement. To accomplish this, aggregate and specific limits grow each year, usually by from 6 to 7 percent. Consultation levels do not grow, but then these levels are applied not to fashion items, with highly fluctuating levels of demand, but to items which usually are shipped in small amounts relative to the level, items which are not likely to threaten market disruption. Further flexibility is provided by mechanisms which permit borrowing from future quotas, the use of unused quotas from prior years, and the shifting of quota between categories during a specific year.

There is another technique of restraining imports in accordance with the Multifiber Agreement. Article III permits a country to impose restraints on imports of a particular product which (1) is not subject to restraint under a bilateral agreement and (2) is causing market disruption. This provision is to be resorted to only sparingly and, except in case of emergency where serious damage is likely to occur, only after consultations with the exporting country. This type of limitation is permitted for only twelve months unless the exporting country agrees to an extension. The U.S. does not have any of these Article III restraints in effect now.

These bilateral and unilateral restraints are not to be taken without regard for the provisions of the MFA. To "police" this requirement, the MFA created a committee, known as the Textile Surveillance Body, or TSB, to review all restraints and bilateral agreements. Although it does not have the power to force action by any country, it can and does make recommendations, which the arrangement calls on members to "endeavour to accept in full."

I think we would all agree that this is indeed a most complicated structure. Yet I think, and it is the position of the U.S. government, that the Multifiber Arrangement has worked reasonably well.

Perhaps now we should turn to some of the very practical problems, questions, which remain unresolved. First, the Multifiber Arrangement exempts from its coverage handloom fabrics, handmade cottage industry products of handloom fabrics, and traditional folklore and handicraft products exported by developing countries. Earlier, I mentioned the handloom industry in India; clearly this capacity is something to be reckoned with. Much of the Indian handloom product is used in India; nevertheless, during the year ending last month, nearly 2.9 million dozen units of apparel made of handloom fabric entered the United States. Some of these items were made entirely by hand, more were sewn partially or entirely on treadle machines, and some included interlock stitching done on power machines. The people who do this work have at best a marginal existence, yet a handloom shirt can compete with a shirt made here by relatively sophisticated techniques. One reason, of course, is that an Indian seamstress or tailor can sew six or eight blouses in a work day with a treadle machine; for this, he or she receives perhaps ten to twenty rupees (one or two dollars).

Next, textiles and apparel are a major source of export earnings for developing countries; these earnings can be used to fund national development programs. Only last week I heard a preliminary report on a program being developed under the sponsorship of the UNDP, the World Bank, and the Rockefeller Foundation, to promote the use of raw cotton. Included among the tentative proposals were a number which would improve textile technology in developing countries. This development of a textile industry is considered important by many countries.

A major element in establishing agreed limits under a bilateral agreement, and a required
element in setting unilateral levels under Article
III, is the historical trade level between the
countries involved. How is a country which has
never exported a significant amount of textiles to
establish an export base with major importers unless
it is allowed to export as much as it can, at least
for a period of time? The MFA, in Article VI,
recognizes the need for special treatment for
developing country new entrants; this provision
requires that the criterion of past performance not
be applied in this circumstance and that the
growth rates accorded to new entrants be higher
than those accorded to established suppliers.
Article VI also states that restraints should
normally be avoided on exports from countries
whose total volume of textile trade is small in
comparison with total trade if the imports from
that country are also a small portion of the total
imports of textiles of the concerned importing
country.

This is quite a balancing act, but it is made even
more complicated by a provision in which we
stipulate that the favoring of high growth rate and
non-use of historical levels should not unduly
prejudice the interests of established suppliers or
create serious distortions in established patterns of
trade. What does one do, for example, when
Guinea-Bissau begins to compete with Hong Kong
or Japan? Japan and Hong Kong are no longer low
wage countries; I suspect that Guinea-Bissau is.
Unless the market is growing very rapidly, any gain
by the new entrant will be at the expense of either
established suppliers or the domestic industry. Of
course words may be used to balance the equities
quite nicely; again, putting the words into practice
is not simple.

The MFA certainly has an impact on consumers,
albeit difficult to measure. Restraints on imports
generally tend to permit higher domestic prices,
thus supporting inefficient domestic producers. On
the other hand, imports which can compete well
because of low labor costs tend to foster
competition, except to the extent that such a cost
advantage is retained by exporters, importers, or
retailers.

Consumer interests also collide with employment
and production objectives. In general,
unemployment has been higher in the textile and
apparel industry; this is particularly hard on the
unskilled and semi-skilled, often minority,
workers.

The most immediate exercise which must be faced
is the renewal of the MFA. The GATT Textiles
Committee will meet for about two weeks
beginning November 30, 1976, to review the past
three years of operation under the agreement and,
separately, to consider the future of the
arrangement. It is U.S. policy, stated by
President Ford earlier this year, to seek early
renewal of the MFA without change.

Many industry and labor groups in the importing
countries, as a result of their experiences during
the recent recession (some importing countries are
still in it), seek to change the MFA to permit
overall growth rates to be much less than the
6 percent now required by the MFA. Other parties
have urged that the import restraint levels
themselves be subject to reduction under certain
conditions, such as recession.

On the other side, groups within exporting
countries will undoubtedly try to cause their
governments to seek changes which would benefit
them. These could include a broader definition of
the exempted handloom products, higher growth
rates, more enforcement authority in the TSB, and
possibly even a change in the membership in the
TSB.

To put it in the simplest terms, each group will
probably be able to nullify the other, and the net
result of both sides seeking changes of the type I
have mentioned would be acrimonious debate. I
believe that the MFA in its present form is as
viable a compromise between the interests of
exporting and importing nations as we can expect.
To attempt to tamper with it now could be very
dangerous. Problems which exist or may arise
should best be dealt with in practical terms, on a
bilateral basis.
Copies of bilateral textile agreements are available from:

1. Mr. Colton Hand  
   Department of State  
   Washington, D. C. 20520  
   or  
2. Fibers and Textiles Division  
   Department of State  
   Washington, D. C. 20520

All bilaterals and the MFA have been included in the TIAS series of the department of state. The MFA is TIAS 7840.

Some statistical information is available from:

Office of Textiles, Department of Commerce  
Washington, D. C., 20230

Economic analyses of the impact of quotas include:


Lazare Teper  
Director, Research Department  
International Ladies Garment Workers' Union  
New York, New York

Ever since the end of World War II, substantial reductions in duties on the various articles of textiles and apparel were made by the United States in the course of negotiation of reciprocal trade agreements or under the General Agreement on Tariffs and Trade (including those negotiated in the course of the Kennedy Round when the United States agreed to lower duty rates on apparel made fibers).

Time and again, concessions granted in the course of the various bilateral or multilateral discussions were made against a totally different background of trade from the one that subsequently developed when most-favored-nation treatment was extended to other countries. This possibility was typically ignored. Yet the patterns did change following concessions when imports of textiles and apparel from countries that were not involved in the particular negotiations began to increase drastically.

In some cases, foreign nations also reduced some of their tariffs. However, many countries relied on non-tariff barriers to offset duty reductions. The variety of such devices is extensive. Many developed countries set up quotas on all or specified types of apparel, required licenses for imports, instituted cumbersome administrative practices to delay the issuance of import licenses, imposed the release of the needed foreign exchange, imposed additional levies over and above custom duties, and so on. The lesser developed countries also used such devices as well as outright embargoes on shipments from abroad. Inability to trade with countries that limited imports through the use of non-tariff barriers induced exporting countries to center their attention on the United States market, a market which was much easier to penetrate.

In addition to duty cuts, the rise of imports was also stimulated by some domestic entrepreneurs.
who wished to evade standards established in this country by cutting piece goods over here and finishing the garments abroad for the purpose of exporting the finished garments to the United States. Such actions were also stimulated by the presence of a special provision in our tariff legislation which permitted them to pay lower customs duties on such goods.

A loophole in our tariff legislation, the so-called item No. 807.00 of the Tariff Schedules of the United States, provided a special inducement to multinational and other firms in this country to employ the lower paid workers in foreign countries to assemble or process goods and then ship such products to this country at reduced import duties. As such, it magnified the export of American jobs, spurred industrial expansion abroad, and boosted the flow of imports to the detriment of our own domestic economy. Item 807.00 was written into the law in 1963.

Prior to that time, no duty was paid on an American part incorporated in a foreign-made article if it was not advanced in value or improved in condition by any process of manufacture or by other means and if such components of the imported product could be identified and removed without injury to themselves or the articles into which they had been assembled. The making of apparel from fabrics cut in the United States thus did not qualify for special reductions in import duties.

Once item 807.00 was made a part of the Tariff Schedules of the United States, many American firms began to take advantage of this loophole which permitted them to benefit from cheaper labor abroad and lower customs duties. In the case of apparel, item 807.00 permitted the assembly of garments abroad from fabrics cut over here, even if material was of foreign origin. Thus, this provision of the tariff law enabled American firms to escape the states’ labor standards.

The lure of lower wages abroad coupled with the lower import duties on finished goods shipped to the United States was further magnified by the special attractions frequently offered by foreign countries seeking to induce firms to operate within their borders solely for export. Inducements offered by a number of foreign countries to American firms—in an effort to get them to relocate their operations to their borders—are, in effect, a form of bribery. Consider, for example, a recent advertisement published in the Wall Street Journal by the Hashemite Kingdom of Jordan. It boldly boasts to the readers of this paper that Jordan has the lowest wages in the Middle East and, hence, that it is the most attractive place to set up a plant. Besides, it says, Jordan offers companies that would operate there a 100 percent waiver of all taxes for a ten-year period. But that is not all. It also offers a 100 percent waiver of all customs duties and excise taxes on materials imported to that country. It offers an opportunity to repatriate profits in full and untaxed. It offers free land and financing of construction of plants, free of duty, free of interest, free of any and all charges to any corporation that would bring its operation to the Kingdom of Jordan. Clearly, item 807.00 is exploited in a manner not originally anticipated by the Congress.

At the same time, the payment of lowered duties on item 807.00 imports causes a significant loss of revenue to the United States treasury. These losses are further magnified by the fact that elements of value for appraisement purposes are typically lacking for the determination of the value of exported parts or the value of the finished products, since in the main foreign shippers under item 807.00 and the domestic recipients of such imports typically do not engage in arm’s length transactions. Even the Customs Bureau recognizes “that invoices and supporting documents concerning 807.00 merchandise are often found to lack the information necessary for the proper examination, entry, appraisement, and classification.” Thus, the American taxpayers are forced to subsidize the export of American jobs under this unjustified provision of our tariff legislation.

The speed with which imports under item 807.00 have increased since this provision was placed on the statute books is appalling. Between 1965 and 1975, total apparel imports under item 807.00 rose by a staggering 14,535 percent! Shipments under this provision continue to grow.
The reliance on this tariff provision by American industry readily translates itself into joblessness of American workers. In apparel, when a domestic firm relies on item 807.00, it exports to foreign countries nineteen out of every twenty jobs it previously used in producing the garments stateside.

Let me turn to the broader discussion of the import problem. I will center my discussion primarily on apparel, the area with which I have the greatest familiarity. In many respects, however, what has happened in apparel was duplicated to a different degree in yarn, fabrics, and made-up textile products other than apparel.

During the war years and immediately thereafter, imports played a small role on the American market. Beginning mid-1950s, however, imports began to rise rapidly. Scarf production in this country was for all practical purposes killed by imports. Imports of blouses caused a major disruption at the lower end of the domestic price spectrum. Other products—sweaters, brassieres, shirts and trousers, to cite a few examples—also began to be imported in increased quantities. Many of these goods were coming from Japan, causing considerable worry to the domestic industry and labor. Finally, in the wake of intergovernmental discussions, Japan introduced a system of voluntary textile and apparel quotas. This did not help much, as imports began coming in from other low-wage areas in increasing volume. Thus, for example, between 1956 and 1961, the poundage of imported apparel advanced by 94 percent while domestic production moved ahead by only 11 percent. Imports of cotton apparel moved ahead in these years by 83 percent, imports of wool apparel advanced by 103 percent, and imports on garments and accessories produced from manmade textile fibers forged ahead by 345 percent.

The tremendous increase in textile and apparel imports—first of cotton products and then of those made of other fibers—attracted attention within both the legislative and executive branches of our government. In May of 1961, finally, President Kennedy decided to deal with what he described as “the serious and deep-rooted problems . . . which beset the textile and apparel industries.” A feature point of his seven-point program was the need to achieve international understandings to regularize international trade in apparel and textiles and thus avoid actual or threatened disruption of markets.

As a result of President Kennedy's initiative, multinational arrangements were negotiated under GATT auspices. These enabled importing nations to get relief from rising imports of cotton textiles and apparel when domestic industry and the jobs of its workers were threatened with disruption by limiting such shipments. It was not until the early 1970s, however, that the United States succeeded in concluding bilateral agreements with five Far Eastern countries and thus in checking imports of apparel and textiles manufactured from wool and manmade textile fibers.

By then, other countries, including Japan, also began to be affected by low-wage imports. The way was thus paved to the conclusion of a multinational multifiber arrangement under GATT auspices which provided a mechanism to check disruptive apparel and textile imports produced from the three major fibers.

Both the earlier Cotton Arrangement and the subsequent Multifiber Arrangement provided a set of rules agreed upon between nations which permitted the regularization of import flows. To implement these rules it was necessary for a country like the United States either to conclude bilateral agreements with foreign countries, setting up specific ceilings on the imports of specific categories of textile products, or to give a country a right to impose such ceilings unilaterally when domestic employment and markets were threatened with disruption.

Under the terms of the earlier Cotton Textile Arrangement, regulated imports from a given country were permitted to rise by 5 percent annually. Not infrequently, when such agreements came up for renewal, additional increases in import ceilings were allowed in the course of negotiations—without regard for the state of the
domestic market. Still, the existence of the Cotton Textile Arrangement and of the bilateral agreements with foreign countries helped to slow down to a degree the growth of cotton textile and apparel imports. Periodic efforts made by the United States to broaden the scope of these agreements to encompass the two other principal fibers—wool and manmade textile fibers—were frustrated until the 1970s.

In the meantime, aside from the impact of existing measures which regulated cotton shipments, technological changes and lack of import restraints induced a skyrocketing of imports of goods produced from manmade fibers. The use of cotton began to shrink in relative terms, while the use of wool also declined in an absolute sense. Manmade fiber textiles thus played a steadily greater role in domestic manufacture of ready-to-wear. These fiber innovations, which were developed mainly in the United States, induced importers to shift their emphasis from garments made of cotton or wool to those produced from manmade fibers or their blends. Importers took advantage of the heightened consumer interest in manmade fiber products to invade the market developed by the effort and capital invested by domestic producers. The check on imports of cotton garments set forth under the terms of the Cotton Textile Arrangement negotiated under GATT auspices and the bilateral agreements concluded under their umbrella began to lose some of their effectiveness due to the switch to products not subject to controls. It is obvious, however, that the existing duties in no way hampered import gains.

By the time wool and manmade fiber textiles and apparel were brought under controls, their volume was huge compared to their levels in 1961, when the first international arrangement was negotiated. Whatever subsequent checks were effected on the growth of imports, they began from a base which was already inflated to an abnormal extent. The conclusion of the Multifiber Textile Arrangement nonetheless slowed down the subsequent advances in import growth. The temporary instability on the world monetary scene as well as the recent recession—the most severe that the United States faced since the great depression of the 1930s and one from which we have not yet fully recovered—played temporarily an even greater role in reversing import advances. On the overall basis, apparel imports measured in square yards of material required for their manufacture rose only 6 percent in 1972, then declined by 6 percent in 1973 and by an additional 7 percent in 1974. Imports began to move up again beginning with the second half of 1974, while domestic production and employment were still in the skids. Between 1974 and 1975, apparel imports rose by 7 percent, and current indications are for a further 26 percent advance this year! Apparel imports in 1976 will in all likelihood reach an all-time high.

Where do we stand now compared to 1961, when the first international effort to regulate textile and apparel imports took place? On an overall basis, imports of apparel in 1976 will top those of 1961 by some 730 percent. Imports of cotton garments are ahead by about 185 percent and those of wool by approximately 55 percent, while imported garments manufactured from manmade textile fibers will show a skyrocketing gain of some 6400 percent. The level of our tariffs has clearly had no adverse impact on these developments!

How do these imports compare in relation to the levels of domestic apparel production? In 1961, on the average, for every 100 garments produced in this country we imported 7 articles of clothing. In 1975 for every 100 items manufactured here we imported 29. While data are insufficient to make a precise calculation for this year, it does appear that the ratio of apparel imports to domestic production will fall somewhere between 33 and 35 percent.

It is sometimes difficult, dealing with the overall figures, to visualize the impact of imports. So let us look at a few cogent examples of import penetration for specific articles of apparel. In the case of women’s and children’s coats and jackets, for example, for every 100 garments produced in this country in 1961, approximately one garment was imported. By 1975, this ratio went up to 25 percent—for every 100 produced here, 25 were brought in from abroad. Take blouses as another example. Whereas in 1961 imports accounted for about 13 garments for every 100
made in the United States, this ratio went up to 42 percent in 1975. What about rainwear? In this period import penetration rose from about 6 percent to 41 percent. In the case of brassieres, it advanced from 15 percent to 42 percent. In the case of knit sport shirts, the rise was from 6 percent to 95 percent, while in sweaters it moved ahead from 5 imported for every 100 made here in 1961 to 112 imports for every 100 produced in the United States in 1975. Unfortunately, the available statistics for 1976 domestic production are fragmentary. Once they become available, I am certain, on the basis of what we know, that the extent of penetration will be even more appalling. These advances, I must add, did not always progress at a fixed tempo. At times there were even retrogressions. What is telling, however, is that there were significant increases, increases of a highly disturbing nature to our industry and its workers, in the past decade and a half.

The increased penetration of the domestic market, despite the presence of international agreements, is possible because foreign countries are typically allowed to increase their shipments each year without regard to changes in the demand for different clothes. Levels of imports also get built up when countries that have not previously exported to the United States begin to do so and when the United States delays imposing controls on imports where no bilateral agreements exist. It is hoped that some of the loopholes in the existing structure of agreements will be closed in the course of negotiations leading to the renewal of the Multinational Multifiber Arrangement and the various bilateral agreements with foreign countries or by congressional action. The strengthening of import regulations in the field of apparel and textiles is essential to safeguard badly needed jobs in this country.

What does this growth of imports spell in the way of the jobs? Our analyses show that the increase in imports between 1961 and 1976 accounts for a loss of more than 300,000 job opportunities that could have been filled by workers in this country.

Who are the men and women affected by job erosion? By and large, they are persons with relatively low-educational attainment, members of minority groups, women, hard-core unemployed. Their profile can be readily drawn from data collected by the government. One of every five persons in the industry failed to complete primary schooling, and virtually two out of every three persons did not complete high school. Past reports show black workers accounting for 10 percent of those employed, American Indians, Japanese, Chinese and Filipinos for 1.5 percent, and people with Latin-American background for 9 percent of the total. The relative importance of the various minority groups is actually higher now.

A few other figures complete the profile of the industry's work force. Over 42 percent are forty-five years of age or over. Around 35 percent live in rural communities. Roughly eight out of ten people on the industry's payrolls are female. Around one-third of them are single, widowed, divorced, or separated. Most of the women are not casual workers. They work because they have to support themselves and their dependents. For every one hundred women in a sample of ILGWU members, sixty-four had to support or partly support their children, husbands, parents, or other relatives in addition to supporting themselves. More married women than single women used their earnings for daily living, whether or not they were the sole earner in the family. Nearly one-third of the women supported at least one other person, one-fifth had two dependents, and one-eighth supported three or more persons.

Workers in the industry have few alternative opportunities for employment. For the most part they are women with family ties which limit geographic mobility. Many are in the ranks of the hard-core unemployed. The industry itself is the largest employer of women, providing one out of every five manufacturing jobs available for women. It thus performs a dual task. On the one hand, it provides the American people with a basic necessity. On the other hand, it is a source of jobs for a huge number of persons who would otherwise be jobless. This fully justifies every measure federal authorities can take to safeguard jobs in this industry.
The increased inflow of imports has had and will continue to have a decided impact on the operating levels of the domestic garment industry and on the employment of its workers. It also limits future employment opportunities for those in the labor market as well as for youth who will be entering the labor market on completion of schooling.

What needs to be done? The present Multifiber Textile Arrangement will expire by the end of 1977. Discussion regarding its possible extension will begin before the end of this year. It is, of course, essential that this international agreement be extended. It is not a perfect document, and it can stand improvements. Thus it is desirable that its provisions be strengthened to provide greater safeguards to the jobs of workers in importing countries, such as the United States. Fixed annual growth rates currently set in disregard of the situation in the domestic market and the permitted levels of imports are frequently much too high, causing as a result significant disruption in the different sectors of the domestic industry.

Of course, we continue to hope that our own government will enforce its rights under the agreement with greater effectiveness. For example, to date, no effort has been made to regulate imports of textiles and apparel that come to this country from Communist China.

One also must remember that the Multifiber Textile Arrangement and the bilateral agreements concluded in accordance with its provisions were negotiated within the existing tariff structure. As I previously pointed out, these tariffs in no way held back the influx of imports. I do not believe that further tariff cuts are called for in the course of the so-called Tokyo Round of Multilateral Trade Negotiations. If duties are cut, they will hurt the industry and its employees and not benefit the ultimate consumer.

Finally, I believe that there exists a decided need to repeal Item 807.00 of our Tariff Schedules. All it does is to encourage the export of American jobs. With unemployment rates as high as they are, no such added incentives are needed.
TEXTILE TESTING: AN ART OR A SCIENCE?

Braham Norwick
Vice President and Technical Director
Joseph Bancroft and Sons Company, Incorporated
New York, New York

Modern technology began in the Renaissance with men like Leonardo DaVinci and Albrecht Durer, who combined aesthetic sensibility with technical advances. Progress combining aesthetics and science is difficult. When both are involved, participants are often not appreciated by everyone. They are educators of those around them, and it takes more years than we like to admit to learn important lessons. The creative artist and researcher is in a difficult field, at the edges of knowledge, using intuition, trying to hit on elusive facts, searching in what seems a dense fog for a glimpse of what is just beyond one’s ken. Often they have a poor batting average. They are not, like most engineers or designers, merely repeating in new contexts what has been done before and working on the basis of handbook information. That work is difficult enough. Then there is the technician, who merely follows the designer’s or engineer’s technical instructions but who should understand technology to follow instructions. Textile testing involves all areas, ranging from the creative researcher’s art to the technician’s standardized instructions. So you already have the answer about what textile testing is and can be. In the hands of some it is an unproven research tool which at some later date may become the basis of an engineer’s standards or be rejected. If accepted, it may finally be the routine test of a technician.

We are particularly conscious of these distinctions in our testing of Ban-Lon® brand products because so much of what we are involved with is a matter of developing fashion. And fashion is almost always what is new, in short supply, unexpected, difficult, often disliked by many (for what they consider to be good reasons). For developing fashion, it often seems every knock is a boost. Fashion is like films and books which sell better if they are banned in Boston.

And this is why so many routine testing laboratories keep companies from making money in developing and growth markets. Standardizers, by their nature, tend to be conservative and to judge by yesterday’s criteria. The most successful laboratory teams tread with uneasy balance between art or research and the tried and “true.” Above all, they must look at every item as if they were in fact the kind of persons who would indeed buy the item in question. The conservative item may need conservative tests. The radical item may need radical tests. Recognizing the difference between conservative and radical is not a routine task. It needs people who sense, for example, the differences between ladies, misses, and juniors, and the expectations or demands likely to be made on a blouse constructed from crinkle cloth, voile, dotted swiss, broadcloth, wool jersey, silk, lace, in navy blue or shocking pink, for a Pucci as opposed to some nameless product which will be sold in a discount house.

Some of the fanciest, most delicate merchandise is knowingly bought by someone other than the conservative buyer. Those with higher incomes might think they cannot afford a certain item. These conservatives would never buy, but the fact is those fancy, enjoyable, and delicate items are at times the equivalent of the opera, trips abroad, and summer homes which are not within the
means of those who must get their joys, ego trips, and status at more modest prices or less intellectually. Because they are treated differently, then, the beautiful and delicate can last longer than the rugged and ugly. Moreover, they are a shared and social pleasure, while the rugged often expresses an individualist or antisocial, alienated and destructive defiance.

Let us look at tangible examples of the difficulties, problems, and solutions in testing. For example, when the flammability issue arose, both long-napped and brushed cottons and rayons were outlawed by the forty-five degree test. The genesis of the test required original thinking, and with this method we did effectively eliminate hazardous fabrics. These fabrics were a hazard which transcended application and apparel structure. The remaining fabrics were those whose level of hazard was more a function of how they were used, and the problem became both less critical for most consumers—and more difficult: so much so that we still do not know if we can find an ideal test and are concluding there is no single solution.

Conditions of use, specific requirements, and justifiable expenditures vary widely. For example, a firefighter, who is inevitably exposed to high heat for short periods, is involved in protection of major assets; so his uniform justifies significant expenditures, and ordinary comfort considerations may be secondary. A child’s sleepwear garment is something else. There are many more children than firefighters, and we generally expect parents to pay for their children’s clothes. Moreover, there seems to be an inverse relationship between the number of children in a family and the family’s per capita income, so costs for garments must not discourage purchase. Furthermore, the child’s garment is worn for long periods and should be comfortable and easy to clean, even to bleach. Since there are many children, questions of disposability need consideration, along with wear life. We must look at total environment, to see what the best social solution may be. As we now know, standard legal tests determine what we may use in the children’s sleepwear garment. As you know too, cotton, which used to have the market to itself, was down to about 13 percent last year. One hundred percent nylon and 100 percent polyester had 50 percent of the market, evenly divided; 100 percent modacrylic and polyvinyl chloride had 18 percent, with slightly more of the former, and about the same percent went to fire retardant acetate or triacetate blends with polyester.

Now you have heard about problems with the above materials. One hundred percent polyester needs treatment with Tris, which has been accused of being a cholinesterase antagonist and a cancer precursor. Even the cotton treatment, with tetrakis, has been accused of being a carcinogen. Bis chloromethyl ether, formed when formaldehyde and hydrochloric acid react, is a proven carcinogen. This led the Japanese to ban any formaldehyde in children’s garments and to set a maximum of seventy-five parts per million for body contact garment fabrics. So we have new and insidious problems introduced in efforts to eliminate old problems. Veterans issued Nomex® pajamas are still being burned because they ask their families to supply comfortable cotton pajamas. Should we force them not to smoke or into Nomex? Is that how we plan to solve consumer problems?

When we discuss textile testing, we must always consider for whom and why we test. In manufacturing plants we test for many different reasons. We may want to know whether today’s product is the same, as good, or better than yesterday’s. To do this, we have a variety of mechanical tests. We check width, weight, pattern, size, shrinkage, break and tear strength, percent non-fibrous, color fastness, even such things as bursting strength. We don’t necessarily care much if these tests do not coincide or even correspond with ultimate consumer usage, as long as they are measures of things in which we and customers may be interested.

In talking to academic people, it is often difficult for industry men like myself to know where to start and where to stop. Primarily this is because those teaching or trained in the sciences are usually involved in how to handle questions and problems with exact or known solutions. We in industry, at least those who have moved up a bit in the executive ranks, spend almost all our time with
questions and difficulties for which there are no exact or known solutions. Sometimes our errors show up as errors only after many years.

Suppose we ask ourselves, as I must, is product ‘A’ one on which I would like to put my name? How can I tell? Products such as dresses and slacks are sold for so many reasons and in so many markets. Before one can ask the question about a product one needs, to be realistic, to answer a question about the customer to whom one hopes to sell or may sell the item. Is it everyone? It really isn’t, since everyone includes babies, the subteen, teen, the infirm, the ultra-conservative, the ultra-mod, the city, suburb and farm dweller, the student, the professor, the factory worker, the deep sea fisher, the finicky, and the slob. One could go on and on about categories which dress in different ways. Moreover, there is the seasonal index, summer and winter wear, and the in-between graduations. The seasonal index affects dimensional and weight requirements. Some items are sold exclusively for replacement, some as exclusively for fashion; and the area into which items fit changes from time to time, as with a scarf, a tie, a handkerchief, or gloves. Is there a replacement index number? How can one give meaningful numbers to such things as the fashion level, the item’s novelty, the costume or conformity index or suitability? How can we give a number to convenience or even to pragmatic quality? It depends on the actual consumers involved, what stimulates them, how they judge durability, maintenance costs, and price initially or in use over a period of time. In my own work, where for many years my major goal was to reduce initial selling prices, I find myself now working to improve maintainability, long-term quality, and wear life in the Ban-Lon® trademark programs. I am more concerned with the standards of the users than those of the makers and sellers. Here experience, intuition, and sensitivity are needed more than machines.

This does not mean that there are no exact solutions in what we want to test. There are mechanical properties we can test mechanically. Of course, even with mechanical properties, odd variations occur. A knit wool may have a different length, width, and weight, depending on humidity. If stored under steam heat in a dry winter loft it may weigh considerably less than in a humid area. Permanent finishes may have properties difficult to test except by use. If a fabric is composed of two or more fibers, one is legally required to tell the percentage of each; but what happens if there are large amounts of finish, not equally on the fibers, applied with such permanence that they cannot be removed without destroying the fiber? These have become legal questions to which there are no really satisfactory answers. What is the true dimension of a fabric or a garment? If one has a high rise suck or a pair of pantyhose, does it matter that it shrinks? What really matters is whether it fits and whether it serves a purpose. There are many such stretchy items, undershirts, panties, supporter shorts, sweaters, turtlenecks, leotards, as well as men’s and women’s hosiery and pantyhose. What are the true dimensions? What is the true shrinkage? For garments sold as small, medium, large, or extra large, what should dimensions be? Should they be fixed officially by a government body? How does one measure things like a brassiere? What are the dimensions of an ‘A’ cup, a ‘B’ or a ‘C’ cup? How high ought men’s hosiery to be? The important thing is that they fit, and the question is how one determines that. Well, there are laboratory solutions. The Army Natick Laboratories have designed pressure devices spread over a body, with separations on a grid about every two inches. What they found is that over the bony structure, a half pound pressure is bearable, one pound is borderline, and one and a half pounds is excessive. No wonder so many brassieres give so many people a pain in the neck. Can one make dummies the equivalent of everyone? People are not machines. In Japan when I bought underwear I had to get the largest size in the shop. Here I look for a twenty-eight-inch waist. It is interesting that even when all dimensions are correct on some garments imported from the Orient they do not hang correctly on American models. Human variation is not simple. It does not follow an ordinary bell shaped curve distribution. For many human qualities, the mode, the mean, and the median do not coincide. This reality is compounded by the fact that people at both extremes are customers and consumers who must be satisfied. We cannot reject or ignore people just because they have some individual characteristic which is not encountered in more than three in a thousand people.
In a stroke of genius, some years ago, AATCC set up a five-level performance category for many tests. But in our efforts to improve quality, peculiar things have been taking place. Technical education has taught production people and academics the concept of knowledge based on measurements; while uncertainty, robustness, standard deviation, and similar statistical terms have indicated a fog in assurance, even some statisticians believe in clear mathematical single answer statements for total reality and insist on dealing only with things which can be clearly stated. I am reminded of the mathematician whose girl friend was plucking daisy petals, saying, "He loves me, he loves me not." He told her sharply she ought simply to count the petals and divide by two; then, if there were a remainder, the answer would be negative.

There seems little recognition of normal social schizophrenia despite the durability of prostitution, strong alcoholic drinks, boxing matches, bullfights, hard drugs, guns for fun, off-track and other betting. There is a usefulness in useless activities, or no one would raise roses or keep cats. As an indication of the schizophrenia which Q.C. people exhibit, one speaker at the ASOC meeting this year went unchallenged when he talked of productive worker satisfaction and claimed that giving workers more money was not effective, as had been proved by measurements. On the other hand, Dr. Juran, who also spoke, emphasized income, though he suggested faintly it might not always be measured in dollars alone.

At that same meeting, I pointed out that modern statistical quality control began in the 1930s, at the end of a depression which bankrupted many. New efforts started to invent fibers, improve textile mechanical properties, increase productivity, decrease costs, especially involving direct labor, and reduce production of off-quality merchandise. It was thought reduction of shrinkage, increasing strength of yarns and fabrics, and eliminating need for ironing would usher in a millennium of customer satisfaction. Now, after forty years of technically successful effort, we find the textile industry still at the bottom of the industrial hill, with a smaller percentage of the consumer's disposable dollar, low value added, and sales per employee still in the economic gutter. If anything has changed, it is that we hear more complaints about textiles than before, together with demands almost unknown at the beginning of this period prior to World War II. The peculiar thing is that testing and statistical theory, helpful for purely mechanical and physical matters in so-called quality controls measured in production efficiency, seconds reduction, and cost control, do not improve our stance with the consumerist community. There are demands in Washington to eliminate statistical methods in evaluating destructive flammability tests. Analysis of variance helps pick out among many influences, major reasons for yarn linear density variability, yarn bulk changes, production of filling bands, barre, loom down time, dye match problems, and even garment seconds. Those who keep their noses to the grindstone think we are doing a good job.

But somehow we have more consumer complaints than ever before. Is it possible our own testing and quality control have in some odd way faced us with this paradox? The answer unfortunately is "yes." The cost of the premium to insure satisfaction for small but vociferous elite market segments—when the product is aimed at the total market—seems often more than most consumers in reality are willing to pay. And, unfortunately, an alliance of consumerists, some academics, and retail and fiber lab people with government functionaries is tending to produce just such finicky and antisocial standards. We, in industry, confused by realities of great complexity and not very smart ourselves, almost welcome imposition of a standard which, if not helpful, is at least definite. We put misplaced emphasis on tests for flammability, shrinkage, and strength and ignore user environment and expectations of price, fit, and wearability. It is most ironic to see high mechanical standards applied to fabric for garments a major part of the market will deliberately reduce to tatters. We testers ignore human motivators for joy, satisfaction, ego needs, status, self expression, leadership, and recognition.

Production and retailing efficiency has been a major goal for the statistical testing community. In spinning we increased carding speeds by logarithmic factors, reduced doublings and all
steps in processing. We tend to move away from ring to open-end spinning. Mules have become museum pieces. The fact that usual tests do not cover the visual and tactile aesthetics, loft, cover, and softness which made mule-spun yarns superior in appearance and hand to ring-spun yarns has been a difficulty for us. Mule-spun yarns were better aesthetically by about the same degree ring-spun is better than open-end. Despite claims to the contrary, my experience as a knitter has shown open-end yarns threadier and more uneven than equivalent count ring-spun yarns in many fabrics. Using the same denier fiber, open-end fabric is harsher and stiffer, usually not desirable in a knit garment. However, aesthetics do not show up in ordinary tests controlled by statistical methods. And aesthetic values seem to have no weight in the inexorable economics; labor, space, inventory, and energy costs have to come down—because people, given a free choice, don't choose the more expensive, even if it is admittedly the best, for a host of routine purchases. The few of us who might can afford to do so only for a small fraction of our purchases, usually in the most personal, individual, and (one might almost say) fetishistic ways.

So the pressure on and by our so-called quality control testing has in general tended towards standardization and lowering of unmeasured aesthetics. Making and inventorying a few styles or sizes is far more efficient than having to keep track of hundreds. This extends to all segments of the textile field and most especially to apparel. The number of sizes of shoes and shirts made available on the market has dropped, but the variety of seemingly different styles based really on almost identical production technology has been increasing, as has their banality, for this is what optimizes profit in short-term sales, despite what may show up in questionnaires and unsophisticated consumer surveys. This continues until high test, price cut inventory has built up; but the consumer is both bored and antagonized. While the big retailers set close standards for shrinkage in washing, their inventory problem leads them into, for example, average sleeve lengths, showing contempt for consumer sizing when it interferes with a good stock keeping value.

Selling quality to the consumer can be likened to opinion surveys. Back in 1935 the *Literary Digest* pulled names from phone books and predicted a Republican victory. In fact, Franklin Roosevelt won. Many people without phones voted, but they had not been included in the survey. If we advertise a product in a magazine not catering to a likely audience, we have a similar situation. It makes no sense to advertise lingerie or hunting rifles in the Saturday Review or pipes and cigars in *Cosmopolitan* or *Vogue*. Instead of losing an election, we lose our shirt. Our problem is the fact of market and product diversity in the face of a rigid, puritanical, and mechanistic attitude taken in most technical and governmental approaches to satisfying consumers. The problem is that major groupings in industry and academic and government offices, instead of aiming correctly at what are quite different targets and distributions, try with buckshot to hit them all simultaneously. Often they confront us with either-or choices when we want variety and wouldn't be seen dead in what someone else loves.

The consumer market cannot be approached with a normal distribution curve, because the human population is not a normal population. We have many lumps in our melting pot. We must try not to get tied up by abstractions and standard curves and ignore humanity. Where apparel is concerned, we have a series of different, even opposed markets, each headed by an elite—the extremes who draw attention, the status symbol leaders, those who control the movements of their own groups. By properly aiming at narrow and specific segments, it is possible to give satisfaction to a real and often huge microelement of the total market while infuriating other elements, even though they don't buy the product until it is old hat, if indeed they buy at all. For example, one of the most profitable textile markets in recent years has been led by the upper-middle-class followers of an unconscious doctrine of conspicuous thrift. The followers go in for tattered, discolored, and soft blue jeans. There cannot be any doubt stronger elements of waste, vulgarity, and overconsumption more often enter into this type of costume—especially when "reinforced" with staples, metallic decorations which perforate and puncture the fabric, or leather pieces which assure poor washing properties—than into most other pretentious clothing. In fact, most of the latter is more likely to be involved in an effort to preserve
and enhance social assets. Conspicuous thrift is often a form of conspicuous consumption, but only a few textile specialists see it clearly. Whether or not such clothes are suitable, innocent fun, a bogus pretension, or even filthy sloth can be judged only by social interactions. Satisfying sybarites and puritans simultaneously is impossible if we are constrained by what satisfies mass producers and marketers.

In testing to ascertain if we would allow a Ban-Lon® trademark on specific consumer items, we have had to sift through a subtle series of real consumer levels for product satisfaction. In Ottawa last year, I pointed out that standards for a paper tissue, a cotton handkerchief, or a silk handkerchief had, of necessity, to be radically different. A cotton handkerchief with lace insets cannot be judged by the same standards as one without trim. Moreover, a five-dollar plain cotton handkerchief must be looked at differently from a thirty-three-cent specimen, and allowing strength tests permissible on the five-dollar handkerchief for the thirty-three-cent item would probably get one into trouble. Yet handkerchiefs are about the simplest of all textile consumer products, and one in which we have lost share of market to a mechanically inferior product. (It obviously pays to advertise.)

Where lifespans are concerned, if we plot, for example, deaths against age, we find our curve U-shaped. If we plot average outlet (a Kinsey term) against age, we get a fairly straight line, where the youngest noted average is five times as active as the oldest. We don’t doubt this gives us hints about more than the wear life of apparel on people. If we plot outlet frequency against numbers in the population, we find a minimum of zero and a maximum of twenty-nine (on a weekly basis this is identical, fortunately, for both men and women): a modal value of zero for women, of one for men, a median of 2.2 for men, with a mean of 3.3. What is “normal”? Where people are concerned, the question has become outmoded, Victorian in its implications. Efforts to impose it lead to hypocrisy and contempt for all law and order. We would rather ask what is socially desirable or undesirable. As long as people find their socially constructive niche in their own mutual admiration society—and clothes help them to do it—we in the textile industry should not force them into stifling conformity, however profitable this might appear in the short-term for mass production, retailing, or political units.

A further problem is that life testing for performance is a complex area in statistics, especially when we consider that textile failure is often involved with rare and unusual events, conditions, and exposures often impossible to test directly in the laboratory. When one uses Weibull distributions to determine how big to build a dam or how strong to build a plane wing, economics enters into the decision; but when dealing with inexpensive consumer textile items, certain people act as if companies and consumers have inexhaustible funds and cannot see that everything which adds to costs and consumption must be paid for by users and in fact may deprive society of other more productive benefits. Each new regulation inevitably adds to costs when second-rate solutions are proposed. There is an old Scottish saying, “A door on broken hinges lasts a long time.” At a recent consumer sounding board meeting I attended, I was permitted to pose a question on how to aim care label information. At the careful, particular, and complaining consumer, or the slob? The response startled me. I was told to provide label information for the slob. The implications of this information must be carefully thought out in our democratic society.

Textile products range from flimsy to solid, from dainty to tough. This range extends through a host of products which bear only their names as a resemblance. The gamut of handkerchiefs, dresses, coats, and hosiery is such that any single standard purporting to give minimal mechanical test values appropriate for the entire nominal range must be nonsense. We must learn not to be numerologists, not to extrapolate blindly, based solely on today’s fashions, our own tastes, incomes, social levels, habits, and personal experiences—especially when our standards are intended to restrict the total market. We must learn that aesthetics and price in textiles outweigh or control the suitable levels for the reasonably visible and purely mechanical properties. We have inadequately stressed aesthetics in the multitude of micro
markets; and our successful quality efforts of the past have thus been leading us to further alienation. At a meeting of the Russian Praesidium, Brezhnev said the Russian consumer wants textiles with "novelty, convenience, and quality." Note that he put quality last, probably because the Russians do have on their books the most elaborate standards and the poorest products in Europe.

Let me summarize the issues. Politicians are not the only ones who are dissatisfied with and suspicious of test statistics. The physicist Ernest Rutherford is quoted as having said, "If your experiment needs statistics, you ought to have done a better experiment." Efforts for quality control are viewed by a large segment of the consuming public, of which we are a part, as another element of an almost inhuman scientific culture, felt as oppressive rather than liberating. The consumer seems increasingly disenchanted, despite evident mechanically measurable improvements. Testing has become a purely materialistic arm of science, with little pretense of looking for knowledge for its own sake or social benefit, but merely for profit, conceived in narrow and greedy aspects: not of benefit for all but just to steal a march on the competitor and lower costs without lowering prices. The name "quality" is a misnomer to the extent it does not concern itself with the beautiful, the elegant, the exciting. That is left to the liberating forces of fashion, which subvert control and push us against our will into short runs, changes, variety, mechanical inefficiency, and even standard test failures, but which in the end offer true quality—which motivate consumers to buy, care for, and keep. Human needs are complex, and efforts to fulfill them by mere simplifications are just as likely to fail as to profit as aimless desires for self and selfish gratification, in miserly and antisocial attitudes. It has been said that fashion is invented by the poor to get money from the rich, and some of the rich would like to stop it.

I don't think I am, nor would I pretend to be, one of those who knows it all, since people like that are tiresome to those of you who really do, but it seems to me the term "quality control" has become both a verbal and technological imposture.

Not only are many consumers alienated, but so are many testers. It is time to consider a major change in emphasis and what we could be doing to re-establish both our own and greater consumer satisfaction with our work.

What can we do to give tests credibility in the eyes of the consumer and in our own eyes? The effort is difficult. It involves a change in attitude. There are no easy to meet standards. We must continually relate them to people, to efforts on human beings. Simple conformity is not enough. We are on the defensive in today's alienated society. Instead of a devil's advocate, most need a truly independent consumer's advocate. While many see the flaw in the statement attributed to a one-time head of General Motors—"What is good for General Motors is good for the country"—we need ourselves to avoid a still narrower, if tacit, assumption, made throughout many professional activities, that what is good for us, for me, is good for the country. One reason politics control in standardization has been growing is that politicians claim their top priority is public welfare, that they are motivated solely by a sense of social responsibility, while we elsewhere are motivated solely by questions of personal job security and selfish profit. To the extent we allowed ourselves to slip into narrow thinking, society at large is judging us as either profit motivated or ivory tower types rather than as aiming for real social benefits. We need to emphasize concern for humanity as well as efficiency and so contribute to individual and social morale.

We in textile research and testing have in the past been a creative part of conceiving, making, distributing, and protecting social benefits. When we think of women's "liberation," for example, we recall that it began with such things as the almost complete elimination of ironing, houses that hardly ever need darning, textile prices which enable the average family to discard rather than repair most items when they finally fail, inexpensive, long wearing and easily cleanable carpeting, washing machines which put an end to the once a week, all day household wash chore, and zippers which save (as Rose Kennedy with her nine children related in her memoirs) incalculable hours spent in buttoning and
unbuttoning the children’s clothes, to say nothing of sawing the buttons back on.

I have been asked to give examples of the human approach to tests giving better answers. One of the myths in textile products is that towels and towelling must be of cotton. Some years ago I was chairman of an ASTM subcommittee in which there was a task group working on towels. Oddly, in all tests suggested, if one substituted rayon, a blotter, a toilet tissue, or a sponge, one got values better than with the materials I personally liked and would use. Now I admit that some people—Greeks and Japanese, for example—don’t seem to like terry towelling; but not even they would like rayon, blotter, toilet tissues, or sponges as towels, washcloths or dishcloths. One hundred percent cotton in a velour or a sheared loop, while pretty, is not good for drying the body. This led me to make samples of 100 percent nylon or 100 percent acrylic towels. The fact is that by proper design they can work better and longer than cotton. But the mystique is still cotton, but we have no tests other than human use to show how cotton is as good or better, mechanically and by tangible aesthetics.

In our work we must never forget that we are dealing not with inanimate or mechanical systems, but with people, for whom habits, tradition, scarcity, price, custom, mystique and status, individuality, recognition, and interaction with what one sees, expects, and recognizes may be truer than pedestrian facts. Unless we try our products on those who will in fact buy and use them, or with people who can fantasize themselves to be effectively like those people, logical and plausible and even human tests may lead to human falsities. So an effective textile laboratory must be something like the theater, where there is much that is purely mechanical going on, where the practitioners not only do mechanical tests but also say to themselves while using items under examination, "Are they well fitted for the use of people who will in fact buy them?" Your questions must be so serious that often the answers will hurt. But unless you answer those questions properly, and market products properly, you can’t know or really help much in the real world outside of the laboratory, the school, and the factory. Outside of those places, people are under much less constraint and have, at least in our economy, real choices of what or whether to buy. I hope you would like, if anything, to give them more and better choices in their pursuit of happiness.
PANEL DISCUSSION:
GETTING INTO THE TEXTILES AND CLOTHING PROFESSIONS

Dorothy Choitz, Moderator

The New York chapter of Home Economists in Business is very pleased and honored to have been asked to participate in this program. We feel that this dialogue between business and academia is very critical and beneficial to both. I must say we have an outstanding group for the panel this morning. (I might also say that I now owe six personal favors to people who came into the city early on a Saturday morning. I appreciate that very much.)

Let me now introduce the panelists. Janice Hamilton is Director of Education and Consumer Affairs with Butterick Fashion Marketing Company. Pat McElhenny is Product Manager with Scovill Sewing Notions Division. Debbie Press is New York Project Manager of Marketing Research with Montgomery Ward. Stephanie Schus is Product Manager at Columbia-Minerva. Cheryl Smith is Education Director at Pellon. Cathy Wadsworth is Vice-President of Marketing Services at Stacy Fabrics.

Each of these panelists is going to have a five- to ten-minute presentation based on her business experience. Some questions each might address include: What courses you took in college that have been particularly helpful to you in business? What courses have not been helpful? What courses do you wish you had taken in college? What further or continuing education courses have you taken since college? What recommendations would you make to students who are interested in a career in business? There may be some repetition; however, we feel that where there is repetition it will come from different perspectives and be a signal that this is an area that was very important to all of us. Our first panel members have been involved in hiring for entry-level positions in their departments. They can perhaps provide some insights, suggestions, or thoughts concerning the new college graduates that they see, the people who sit in front of their desks in an interview situation. I’ll be timing the presentations, but we will have time for questions and answers at the end. So you might want to jot down some questions. We would like to keep it as informal as possible. Please ask as many questions as you’d like at the end of the presentations. We thought it would be proper to start with the educational directors, Janice Hamilton and Cheryl Smith. They will be followed by the department managers, Pat McElhenny and Stephanie Schus, who will be followed by the marketing people, Debbie Press and Cathy Wadsworth. If there is anything left to say, then I’ll finish up with that. By the way, Gail Hamilton of Knit-Away (retail) is in Charlotte and so was unable to serve on our panel. I’m sorry she’s not here; she’s very good. Let’s begin now with Janice Hamilton.

Janice Hamilton

I’m going to recap some of the courses that I had in college and tell you how they have really fit in and benefited me in my career. My strong technical background in clothing and textiles was of tremendous benefit to me, particularly at entry level. I decided to go back to get an M.B.A. in the area of general management. I felt the need for finance courses. I wanted to know more about marketing. What I had learned in marketing was pretty much on-the-job, and I wanted a little bit more background. I felt economics courses were extremely important if I were going to get into management positions. And in the area of business
research I wanted to be able to speak the language of those managers who were around me. I knew the language of textiles and patterns, but I needed to know their language as well. I needed to be able to talk to them, to relate things I was doing to the bottom line, to know and understand all the types of programs and projects that these managers were suggesting.

We are having a very difficult time finding young people right out of college who have enough knowledge of clothing instruction to fit into our job. Somehow you know if a prospect is missing this knowledge, and this is really a basis for companies such as ours. We have positions—in education, consumer departments, promotion, fabric departments, product marketing, editorial, etc.—throughout the company for young people with general home economics backgrounds. We have a lot of jobs that a person having this sort of background could walk into.

In working either with the product area or in our consumer area, we find many consumers who want to know more about fit and pattern alteration, and we’re finding that even if young people have had courses in flat pattern and so forth, they usually don’t know fit. They learn how to fit their own bodies, and they know all of the things that have to be done to make a garment smaller or larger or whatever in relation to their own bodies; but they don’t know it generally. They aren’t able to help a large person, for example, without a fair amount of additional on-the-job training.

Although consumer functions are not under my area, they are an extremely important part of our company. I can teach consumer affairs functions much easier than I can impart all of the basic information one needs to know in the area of clothing and textiles.

One of the other areas that is extremely important to us is the whole area of communication—or the variety of communication techniques. We communicate by the written word, by editorial topic, in technical writing. I want to stress business writing, how to write a good business report, a good business proposal. Oral communication—not only being able to talk before an audience but being able to make a good presentation—is very necessary, of course. Another skill most job applicants lack is that of being able to look at a problem, knowing where to go for the answers, and then being able to carry through with solutions to that problem.

One last reaction to the young people who come to me: most are interested in a good job with a pattern company, a foods company, or whatever. They lack direction. If they give us the idea that they could as easily go into clothing as foods or home furnishings, then we assume they probably don’t have enough background in any one particular field.

Cheryl Smith

Six or seven years ago I graduated from college, and it took me two years to find a job that I wanted. I worked in the field during those two years, but I wasn’t doing what I knew I wanted to do. I thought I was sensible to work even though I wasn’t doing exactly what I wanted to do. At that point in time unemployment was maybe 3–5 percent. Think about the seniors, who are not going to find jobs when they graduate in May. What you can do now is to help all of your students to understand that they probably won’t find the perfect job right away. One thing that I notice in talking to college graduates is that a lot of them think, “Well, I’ve got a college degree, so I’m going to go out and get a good job.” I think the biggest thing that can be impressed upon college students right now is a sense of realism. Telling them that they’ll be unemployed may not be nice, but it may well be true. Please prepare your students through their course work and through a personal relationship with them, by advising them, so that they can approach going to work and wanting to work—whether they go to work in business or in education. Attitude is going to impress the employer and make them desirable in the work force.

I have hired a number of recent graduates, and that’s basically what I’d like to talk with you about. In 1975 I saw many, many applicants, but there were only two openings. I interviewed
between fifty and seventy-five people before I hired two. I start by interviewing only people with a home economics degree. What I'm looking for in an interview is a sense of communication. When I'm talking to someone I notice how they present themselves on a one-to-one basis—how they are going to relate to business people in a small group, how they are also going to relate to a large audience. Communication counts not only in the educational area or in clothing and textiles but in all areas of business as well. If people can express themselves to other people, then they have an advantage. Another area of communications is that of having a strong sense of or feeling for the consumer, knowing whom they're talking to and whom they're talking about.

A second thing that I think is very important is the area of sewing skills. When I interview someone, I'm not looking just for the garments they have made. I'm not always even looking for neatness in skills. Rather, I'm looking for creativity and ideas, things which show the individual has tried to develop new techniques. I think also I should explain why I'm looking for this. I'm not looking for someone who is going to be a sample maker because a person can go to a technical school for two years and come out being capable of beautiful construction. I'm looking for construction ability that will lead to the development of new techniques in clothing construction. I'm looking for someone who will be able to talk with educators and talk with consumers about sewing techniques on a very valid basis because she has done this for herself. If one of my representatives speaks to an organization such as this and holds up a lot of samples that a sample maker has made, she must really know what went into the construction and be able to relate that to the audience. What were the problems involved?

The other thing that I look for when I talk with students is that they have a realistic approach to entering the job market. In addition to having a staff of nine home economists and active educational representatives, we have also been involved in a student attention program. This gives me even more insight into what some people expect when they're approaching a job. Most people don't realize that when you enter business you enter at the beginning. You want to know about the product, learn about the product, and you must start with bosses above you. You do not start as your boss's boss. Yet I get the impression from student interns that they really expect to be the boss. When they're still in school, they still have a sense of security. They haven't been out looking for jobs yet, and they are still willing to express this type of opinion. If they have any sense at all, they're not going to tell you in an interview that they want their boss's job; but at the student level they are still apt to express this expectation. I think they all ought to be cognizant of the fact that that's not where they are going to begin.

I think it would be relevant to remind students that they should never lose touch with the basics, with the plot, with the service, with who their customer is, with who the consumer is. Otherwise, they are not going to be serving the consumer even if they become the president of the company. If they are not thinking about who their customer is, or who their consumer is, they are going to lose touch with the whole line of business.

In terms of course work, a student has to determine the type career that he or she wants. In clothing construction and textiles retailing, it's not just knowing how to sew, but knowing about sewing, what's involved in it, how to work everything together. The second area that I think is important is the area of speech, presentation techniques, and media usage. I had a general course in political arts, and I would suggest that; but I also think that specific presentation techniques in each course in a particular area in textiles and clothing are very valid. These communications skills are things that you teachers can incorporate into every course, because there should be a lot of opportunity in a clothing class for giving demonstrations, making speeches. In school, I didn't realize that the preparation and presentation of a speech was equally as important as material that I was presenting. I think this is part of your course work that can be impressed upon a student: giving the presentation is just as important as what you are saying.
I came from a very small high school to a very large university, the University of Vermont. So, of necessity, I took some additional courses in business and liberal arts. I have found them to be very beneficial. Still, I wish that I had had more courses in writing at an advanced level, not just the English one must take for a couple of years at the beginning of college. At the senior level, you should go back and take a writing course. Another suggestion: a career guidance course at the upper level, so that when the students are really ready to go out and look for jobs, they’re being prepared for the process.

Pat McElhenny

I have to tell you about an interesting experience I had recently. Two or three weeks ago I got a phone call from a college professor asking if I would come over and sit down with some people in their home economics department one afternoon. The college's career guidance counselor was at his wit's end. He wasn't really sure he knew what a home economist is, much less what he or she does. The staff there wanted to put their act together, to build a career guidance program for home economics students. It was interesting to me to see that there was some discussion about where home economists fit into the business world. The counselor had a checklist of the area job opportunities. Several banks were on the list, but the counselor's comment was: "Oh, that is no place for home economists." Well, several of the banks in New York City have hired home economists in various areas. Insurance companies were also mentioned, and I could assure them that insurance companies, too, are hiring home economists. I think it was an enlightening experience for them, and there will probably be some follow-up to this particular approach.

To pick up on what Cheryl said about unemployment, I think that the unemployment level—the opportunities or lack thereof in the field of home economics—at this time does offer a challenge. When I left school, which was more than six and a half years ago, the woman's role had not yet even begun to emerge. When I went to college, I was going to be a dietitian. In a second, I'll tell you how I got from there to where I ended up. This, I think, does offer an opportunity for your students, to do some research, do their homework, and find for themselves niches that may be nontraditional but that will use the skills they have acquired through their home economics background. Some of these skills—the diversity, the management skills, all the rest of them—really can't be learned anywhere else. They have a great deal to offer.

Like I said, I was going to be a dietitian. But after my first foods course I decided I wasn't going to be a dietitian. My parents had worked all of their lives, scrimped and saved, to send me to school to be a dietitian; and there was no way I could tell my parents that I wasn't going to be what I said I was going to be. So I continued, went on and completed school. It was basically a liberal arts college, so the background was pretty general. The curriculum offered in home economics at that point was either in the foods and nutrition area or in preparation for teaching. There was nothing as far as the business world was concerned.

I think that there were probably just two things that got me interested in business, and they were dormant for a while. One was an instructor who had worked here, in New York. She had attended the graduate program at New York University. She had worked for Saks, or Macy's, or somebody where she started at the back door, right at the shipping level; and she worked her way to the top. She was so enthusiastic and convinced about business herself that she instilled the spirit in me. The other was a graduate who came back to the college from a home economics company. She had worked as a buyer at the time when buyers traveled all over the world. I just thought that it was marvelous that somebody should be able to do this. So I think those two things influenced me.

I taught at a senior high school for four years, but I frankly don't remember the experience at all. I think that you learn a great deal from dealing with people. The type of skills that I developed there or improved upon were word skills that I had learned in my college coursework. But at that time I taught in the area of foods and nutrition. Then I
joined Scovill as a traveling representative, and there my clothing and textiles skills did very definitely come into play.

One course I took while I was teaching may have been one of my best courses because of the nature of the work in the field. It was flat pattern design. That has to be one of the benefits of clothing construction. That information and that background has been helpful. As far as the other college courses that I took, I think I agree with Janice. There were things at the time that I thought were unnecessary, but they have come back to me since. I remember sitting through a painful art history course. At the time I thought, "Why do I have to sit here and watch all the statues? This is just terrible." Well, when I was able to travel, I had a much better appreciation of the works of art in the museums in Florence, Italy. So I think, while not all courses are relevant in everyday life, there are other areas of life to consider. If other courses weren't helpful, it was because I was not interested in them, or perhaps because there was something lacking in the instruction or a communication problem between me and my teacher. On the whole, however, I enjoyed my course work, and I have fallen back on much of it since then.

In my business career I have moved into the management level. I think one of the problems we have in home economics is that we tend to be doers. We tend to do everything ourselves. This is the nature of the beast. And I have to admit that I am still going through the painful process of forcing myself to use outsiders' work. I have to learn to use other people instead of doing everything myself. I think this is one of the areas where there is going to be some shift in emphasis.

On further education: For a period of time, while I was living here in New York, I was enrolled in the M.B.A. program at New York University. I felt the need to communicate on the business level. I had the technical background and the technical skills, but I did not have any business background except what I had learned in the world. At that point I felt a need to learn how to read a profit and loss statement, how to read the annual report. Since I moved to Connecticut, I've not been back in school; however, next semester I'm hoping to get back into the M.B.A. program.

On the undergraduate level, a business course about on-the-job training in the introductory major would be helpful. Some exposure to the fact that marketing and merchandising exist would be very helpful. I think that it broadens the outlook of the student. But I also think that an on-the-job training course is necessary for the further development of those skills. I don't think we do students or companies a service by getting down to the nitty-gritty in courses at the undergraduate level. (The individual shouldn't have to unlearn and relearn.)

I was recently asked, "How do you sell a degree in home economics?" My answer was: "You don't sell the degree in any area, any subject. You don't sell a degree in history, economics, or whatever. You sell yourself and the skills you can contribute to a company, which means that in looking for a job you also have to do your homework about the company, educational institution, government agency, or anywhere else you're looking. You need to know what it is that they need, or what you have to offer them so that before you leave they know that they can't do without you. And they hire you."

I just want to reemphasize the communications skill. We've all hit on that point. It's so very, very important. Every minute of my day is communication, whether it's dealing with consumers, dealing with suppliers, or dealing with other people like salesmen. The ability to read, write, understand, and translate or relate material to the situation is very, very important.

Stephanie Schus

After graduating I took a year off and traveled, but after I came back I ended up working for the same company I had worked for in the past. As a freshman I wanted to be a textile chemist, but when I realized I would have to end up getting a Ph.D. in chemistry I decided that was a little bit too much for me. So I switched into communications basically. Fortunately, I had
taken writing courses and advertising courses and
was able to put them to use. I think we need to
encourage students, at least those who see what
they want to do, to develop skills by actually
doing things during college—working on a
newspaper, doing something in student
government—that they’re actually going to put
to use. Develop skills. When I’m interviewing, I am
impressed by the student who has actually got
some experience.

The company I work with employs many
designers. When we are hiring, I talk with people
coming in looking for a job in our design
department. They obviously have to do something
to qualify to work in our design area. Samples are
always interesting to look at, and their showing
samples can communicate to us how they might
communicate on the job. Presenting
oneself—selling oneself, showing the pro-
spective employer what it is you have to
offer—is very, very important.

One of the things that I found helpful as an
undergraduate, in terms of trying to focus myself
and decide where I was going, was a whole seminar
on careers. We had people from industry come in
and talk to us. This is, I think, where you can get a
feel for what business is actually like. To this day,
I still remember a woman coming and speaking to
us about writing memos. One of the things she said
is how it is to get executives and managers to read
your memos in light of the astronomical amount
of paperwork which exists within any company. I
can't emphasize communication
enough—because you can't do your job without
other people's supporting you. You just cannot do
it by yourself. You may have the best idea in the
world; but if no one hears it and understands it,
you might as well not have the idea.

As a matter of fact, the way I came out of the
consumer education area into marketing was really
based on some communication. The American
Director of Marketing at the company where I
work was an excellent writer. I used to love to
read his memos. And I realized my own career
wasn't moving much in terms of the opportunities
that I foresaw for myself. Marketing seemed to be
really interesting in terms of involvement, so I
investigated the M.B.A. program that I would be
going into, and I am now in marketing.

The thing that my graduate school program gave
that my undergraduate schooling and my business
experience had not given me was an approach to
problem solving and a context of thinking. The
thing that business school gave me, particularly in
the courses that were case courses (and I see no
reason why the approach of the case course cannot
be used at the undergraduate level), was a way of
approaching problems, of approaching any subject,
whether it's in business or education or just living.
I just think the interplay between people, which is
exactly what you would get in a business situation,
is invaluable. It makes you think on your feet.

Probably the most important course I ever took in
business school was accounting. Numbers are the
basis on which businesses are run. If you’re
preparing any kind of budget for any kind of
department personnel, then you see it
shrinking everyday; but there are different ways of
counting things to get more mileage out of less
money.

I don't know how you can teach this, but
something that's very important and very time
consuming is people management. An unbelievable
amount of time is spent on just making sure that
people are getting along together and that you're
utilizing people to the best of their abilities. Again,
I don't know how you teach this, but I think it's
very important for students who are entering the
business world, particularly if they're aiming at
being managers, to understand dealings with
people. It's very important to them in getting their
own job, too. The more support you have from
below and the more you can develop your own
personnel, the easier your job is.

One of the things that I've always felt I lacked is
some type of retailing experience. For a summer
job or that first local job, working within a
retailing environment could be invaluable. I've
always felt that home economists are consumer
oriented; I mean that's where they start. I think
that's one thing that businessmen resent: the fact
that we see the consumer first. But we are
agreeable at times with the decisions that they
want to make in terms of products or advertising or something that might not be exactly consumer oriented.

The organization that I'm working for now recently was involved in a change, moving from a sales organization to a marketing-oriented organization. Doing that, I think, parallels what the whole consumer orientation in home economics should be. Unless you start with the consumer, you're going to end up with products that are not sellable. Your students are at a big advantage when they go out with this orientation.

Debbie Press

I've got so many things to say that I think I could stand up here and talk to you all day, but I'll try to narrow my thoughts down. You've heard from panelists who have been out of school for six years, but I won't even begin to go into how long I've been out. I've been out of school a long time, and I've had a lot of jobs and a fantastic time. If there's one thing you do for your students, instill some enthusiasm. You can't get a job without going in and showing some strong feeling, letting the people who are interviewing you know that you want to get that job, that you're going to work on that job, that you care about it. There's been a certain sense of lethargy among young people in the last few years, a feeling that it's far more sophisticated not to show any emotion, to be very cool. Bologna! If you come in for an interview and you show some excitement and some enthusiasm, you're going to have it all over the other "cool" applicants.

I think a home economics education offers enormous diversity in terms of going out and getting a job. I have never obtained a job as a home economist. My first job was in retailing. I was a retailing major, but textiles was possibly the most important area in my education. If you're coming into the textile and clothing field and you have textile background, you have a very strong plus. I've got to run this down for you because I really think the way I run from job to job is distinctive. A couple of people have said that it's very important for a student to work during college. The student must have some knowledge of what a business is about, not by being in a classroom but by being on the job. Internships are very helpful, but they're not as good as going out and getting a job in a retail store in the business. Any kind of exposure ends up being valuable, even if it's minute detail work or boring work. I have said this to students. Those little things that you hate to do on a job and end up giving you some kind of knowledge, some kind of valuable exposure or experience. You work on a tedious job and then two years later somebody asks you about that kind of work, and you have something to contribute to a subsequent situation. Nothing is wasted when you work a little bit while you're still a student. I hate to think about the jobs I messed up on in the middle of college, but I know I learned a lot.

I think standing up on your feet in front of an audience and being able to communicate verbally is vitally important. I think you can do something about that by interrelating your own course work. Students who use materials from one course to make presentations in another course begin to put things together. The interrelationship begins to mean something; it all becomes part of an industry. Perhaps, instead of requiring a term paper, you should have your students do an oral presentation on the materials they've developed. I think that's vitally important. They've got to use visuals if they're going to learn what it's all about to stand up there and conduct a meeting. My speech course was fine and valuable but taught a lot of things that were not important, whereas having to get up and make a presentation in front of a class, using materials with which you are familiar, is important. Nobody can give a presentation on something about which he knows nothing. You have to be familiar with your subject matter.

I'll mention some background courses that I think would be important to add to the textile and clothing major in terms of getting into a variety of other jobs. I almost laughed out loud when Stephanie said accounting because I'm taking accounting right now. I'm spending five hours every Sunday doing homework. It's really incredible. I like it, but it's awful. I go to school all
the time, and I'm taking additional courses. I think a young woman coming out of school today with a graduate degree with some business element to it has the best chance of anyone of getting a job right now. I'm not talking specifically about home economics; I'm talking about the whole business world in general.

I think courses such as basic marketing, basic retail math, accounting, merchandising, marketing research (which is really a consumer research procedure), and advertising (exposure to advertising) are important. You grow up in a world using your technical background not particularly as home economists but as specialists within other worlds, within marketing, advertising, sales promotion, publicity, education. The role of the consumer is vital to all areas. Again, I have to make you generate a feeling that this is a terrific background. When you add other interrelated courses from other schools within your universities and bring them all together so that students have these other areas brought in, home economics students have a super background. Of course, graduate work begins to assume greater and greater proportions these days. I'll have to admit that.

I think that you people as faculty should take jobs in business for months at a time at certain points in your career. Not only the kids should have the internship, but you teachers should as well. I think your understanding what's out there in the job field is more important than the youngster's taking an internship job arrangement during college. I think you would be of more value to the businesses, and certainly the business background would be extraordinarily valuable to you as teachers. I really feel very strongly about it. I had lunch the other day with a home economics professor from New York University, and she said, "If only I could take a job occasionally, I just need to keep up with what's going on." She's the sort of person who tries to get into everything, who attends HEIB meetings in New York. She really is an involved person, but she feels a lack; and those of you who are away from business know that you really can't talk about business because it's changing so rapidly. I think it's very important, if you encounter that, to bring in some people from the field, from business, to talk to the kids. I think it's very worthwhile, whether it's a special career orientation program or a course for an entire semester that's given by somebody from an active job situation.

I have a way-out suggestion to make here. I think students also need a course in managing a home and a career at the same time. I have two kids who are both in college now, and I have worked pretty much full-time throughout, facing the problems that come with the combination of career and family at a time when there was no women's lib. Nobody I knew was really doing this. I was very lucky because I got a lot of free-lance work in the beginning, but there were problems, very serious problems. Decisions have to be made when a young woman combines marriage and a career. What are her thoughts about her career versus her marriage versus her home?

Cathy Wadsworth

I've really been inspired by my fellow panel members. I know all these people quite well, and I'm convinced now that we just have to get together more often to express ideas. We've certainly reinforced each other's ideas. I've appreciated their comments, and I will continue with some repetition but perhaps from a different perspective in some cases. To begin by mentioning college courses that were helpful to me, I would agree with my fellow panelists that skill in textiles, construction, understanding the product, the pattern, and the whole idea of sewing is the key thing I have to offer my company that no one else, even at my management level, knows about. In a meeting it comes down to someone's asking, "Well, Cathy, will this really work and will the consumer use it?" Some of the men in business may know all about the financial end and management and may make most other high level decisions; but there is no way they can know how a particular product applies to the consumer, what's the best way to package it, how to write the instructions for it, how to promote it, and how to communicate it to the consumer. I feel that's what home economics majors have to offer a business, any type of business. That's something that students really have to recognize, because in
an interview situation your skills or your abilities are what you're selling; and I think your students need to know that those things are important to business. Understanding the product and knowing how to work with it yourself, understanding your market and your role to the consumer: these are the home economists's special skills.

Other courses that have been helpful are speech and writing, art and design. I can't think of too many courses that really weren't helpful. Maybe I've suppressed them so much that I can't even remember them. But even looking back at certain courses that didn't seem closely related to my field (I never was too interested in English literature or psychology), I find when I'm trying to prepare a memo or read ad copy to see if it is really communicating the idea, or in trying to manage people, that I do draw on my background in psychology or English or whatever. So I do still feel that a liberal arts background as a core curriculum is very important. It makes for a more well rounded individual.

In the business area, I took some courses in salesmanship, advertising, and marketing. In the salesmanship and advertising courses (problem-solving courses) I found creating a campaign or this type of thing to be very helpful. At the time I didn't totally recognize the significance of it. But applying course work to a business situation gave me a starting point for understanding what's involved; why advertising is done, what a logo is, things like this that were helpful in getting me started in business. I don't feel that those courses were so in depth that I was ready to go into selling or advertising, but they were a background in terms of exposure and experience.

One of the courses that I had was a field experience course. Everyone always complains that there's never a job in textiles or whatever in Cleveland, but I worked in retailing; and I thought that was one area that I might like to go into. The thing that I learned from my field experience was that I did not want to go into retailing. So that experience was a big help because it gave me some direction when I began looking for a job when I got out of college. If nothing else, students can at least find out what they want to do and what they don't want to do. Aside from working, which some people have suggested, I think that business experience should be incorporated into a course as well. What the course forces you to do is to analyze what you like and what you don't like; and just having that awareness helps to give a sense of direction, a feeling for the path you want to follow as far as searching out a career. Having that direction, you can communicate it better in an interview. I really like dealing with people; I've tried it and know I like to do it. In an interview you can sell yourself, be much more convincing than the students who come in with a "Well, tell me what you're going to do with me" approach. I wouldn't have much confidence in hiring people if they didn't already have some conviction about things they like to do or areas they'd like to pursue.

As far as gaps in my education, I'll go back to the communications area, an area I struggled with and am still trying to perfect. I could still use a lot of work in my business career. Perhaps, in addition to the regular English courses where one might learn how to write a short story or a paper, or a speech course which gives you the basic principles, that taking the same skills and relating them more directly to the particular subject matter of textiles and clothing and trying to incorporate them in the regular course work would be good. For instance, a lot of the beginning jobs in the textile home sewing industry have to do with answering consumer mail. How do you respond to these consumer problems? If someone fused something to her ironing board, how do you tell her this was the wrong thing to do and still present your product in the best light? The ability to communicate with the consumer is an important beginning level skill. If someone has the right background or at least a knowledge of the kinds of problems that come up, he or she can offer that to the company.

An ability to write instructions should be fostered in your construction courses or design courses. Have the student designing something write instructions on how a person would assemble it in the end. Start at the beginning of the pattern and communicate it to a potential user. Communicate
it in writing or in a speech to other people, convincing them first of all that they should do it, instilling enthusiasm about the project, and instructing them in "how to."

A lot of us are in the home sewing industry or in marketing; our jobs are consumer oriented, but they’re also very public relations oriented. I think that it would be very helpful to have a knowledge of what a press release is and how the press gets involved with the product and consumer. There are a lot of press jobs for home economics. So I think that’s another area that could be explored.

I wish that there could be a course— but I don’t know how it would be structured — on what home economists have to offer business. Perhaps it would feature guest speakers, but it would certainly impart a sense of what value we have to offer the business community so that students can sell themselves in an interview. They need to know where they fit in. The consumer orientation can work not just from a consumer advocate point of view but can actually help the company to obtain greater profits and greater success by offering things that are going to be helpful and useful to the consumer. Companies want to know what consumers think, now that their awareness has been heightened in this particular area. But the home economist has to relate what she has to offer in this particular area and know how it will be of value to the company. I think there should be a course just to explore those areas and to make students aware of what the profit motive is all about.

Sometimes home economics is like a religion—the way we learn the right way to do things, the principles, etc. In business you have to know not only the principles but also how to relate them to the profit motive. Companies are in business to make money; that—and not doing things that are harmful to the consumer—is their primary approach. Those things can be worked together, but as home economists we have to know where compromises can be made. For instance, an ideal product that just wouldn’t be profitable for the company shouldn’t be made; we’re simply not so altruistic that we’ll offer it to lose dollars on it. Home economists coming into business have to understand from a realistic point of view what the profit motive is all about.

Let me touch briefly on interviewing. The first and foremost thing I look for is enthusiasm, a little spark, that says, “I’m interested—not only in getting this job but also in being out in the field working for you as a representative. I’m going to be able to instill my enthusiasm in people that I talk to.” That’s really the first thing that I look for, the ability to communicate that enthusiasm.

Second, the résumé is very basic. How do you write a résumé? I think that somewhere in the university system there must be somebody who can teach students how to do a résumé. It should be only one page long. It should be brief but cover all the basic things. I’m not going to go into particulars, but it should be prepared correctly. If it’s mailed it should be accompanied by a cover letter. I don’t want to read a résumé unless it has a cover letter summarizing what I’m going to find in the résumé. We get hundreds of résumés every May, June, and July from students who are looking for jobs. You just can’t read through all of them. So you need something that’s going to make an impression, and that’s where it pays to have a cover letter to make an impression on whoever’s looking at the résumé. The letter can cause the reader to go on through the rest of the material and perhaps call the applicant in for an interview. It should be neatly prepared. I think something else I’m looking for in a résumé and cover letter is a statement of that student’s objectives. This statement doesn’t have to be specific, but it should at least show a direction and some basic interests. Something else that I’m always impressed with is when the person follows up after the interview to thank me for the interview, stating her basic feelings about it or reiterating why she feels that she is the person for the job. That’s a very impressive thing, but few students think to do that.

Since we’re in the home sewing industry, I’m also impressed to see—and can’t understand why some applicants would come to an interview not wearing—something that they’ve made. I’m not interested in ready-to-wear; I’m interested in home sewing. And if someone can’t appear wearing one
garment that they've made, I wonder about their sewing skills.

Also, I like to see if a person is aware of things that are happening in the industry, of some fashion trends, if she has read some publications, knows what some of the pattern companies are doing, or (especially) knows and loves one of my products. If an applicant mentions one of my products, that says that I'm doing my job by reaching the consumer; it's very impressive. So they need to do a little bit of homework and find out about the company they're going to interview with and not just go in cold. Don't tell me that you use muslin interfacing; I would like to know you at least use Pellon.

Anything in their extracurricular activities that indicates that they know how to work as a team with other people to achieve an objective is important. Being an all "A" student shows that one is diligent in studies, but can that "A" student work with other people? This is important in any business atmosphere. I usually look for outside activities to indicate that sort of thing. I seldom require a transcript on anybody. Most resumes include a grade point average which gives some indication that the applicant has completed the courses and has done the work and has the background. I once in a while contact references, if there is some competition for the job.

A person's basic poise is also important. A lot of our beginning jobs involve travel, which is a very difficult thing for someone who is young, right out of school. Also, I look for someone who looks like she could handle herself in a travel situation. If she's by herself and her luggage is lost, is she going to break down and not be able to carry through? Those are the types of things I look for.

Dorothy Choitz

I told the rest of the panel that by the time I got up here, all I'd be able to say is: "That goes for me, too." But I do have a few things that I want to mention. As some of the people were speaking this morning I thought of a couple of experiences I've had within the last year that have kind of put me off as far as students are concerned.

In a phone call I got last month, a young lady said, "I'd like a job at J.C. Penney." I said, "Fine, what area are you interested in? Is it foods and nutrition, clothing and textiles, or what?" She said, "Oh, it really doesn't make any difference." To me that was an automatic turnoff. That poor girl is probably not going to get a job until she learns to zero in on what it is she's looking for and what it is she does best and is interested in. Generalists are a dime a dozen these days, and that's not what anybody's looking for.

The second thing is: a number of students call on those of us who are in business in New York for appointments. They ask, "May I come in to see you and ask about the industry and so forth?" This is very time consuming, but I'm nevertheless very willing to do it. We're all busy people, but we're willing to do that. We agree on 10:00 a.m. That's when the person is supposed to come to my office. She strolls in at 10:30 or 10:45 expecting me to have an hour or whatever for her. We all work on a very tight time schedule, and if you miss the 10:00 you really don't deserve the 10:30. I guess some of them obviously do not understand when I say, "Look, I'm very sorry. You know I had expected you at 10:00, and I have a 10:30 meeting. Because you're late we only have a few minutes to talk." It may seem unfair, but that's the name of the game as far as I'm concerned.

Several members of the panel have talked about skills. Things have changed in clothing construction. When I think back to the tailoring course I took, I remember that we were required to put in at least 200 hours of pad stitching on the jackets we turned in. I don't have 200 hours to do anything anymore, and nobody else does either. Certainly, the consumers and consumer groups that we're talking about today are concerned about time. So there has to be an awareness of quality and fine techniques and so forth. You have to be involved in fusibles, things that give you a good effect in a minimum amount of time and are updated in terms of the needs of today's fabrics.

Another point on skills that I think is very critical is the fact that, while none of the people on this
panel sit in their offices and sew, they know about sewing. If you are contracting with a free-lance writer to write a publication on sewing, you have to be able to edit it, so you’d better know what clothing construction is all about. Otherwise the information that goes out to the public is absolutely full of holes. So I think that one of the main areas that people really need to stress is skills.

What I really want to say concerns the business courses in the business area. I think the whole thing that has been pushed on employment is critical. Knowing the bottom line and how you’re contributing to that bottom line, knowing the whole business of business (what it’s about, what the structure is, the terminology, all of the semantics involved), is very necessary. Basic courses must form the foundation. How does your function fit into the whole picture? Some educational departments in companies are phased out when the economy gets tight. Why? It’s partly because those departments are living in their own dream world. They think the whole company is designed to work around them when in fact they should contribute to the company. These things are just very elementary.

One of the things that I found very valuable at the master’s level was the whole research area. It has given me a background to assess the studies and the research that are conducted and to ask questions. Is this really valid research? Was it worth $50,000? Who was in the sample? What length of time did the study cover? That is one area that has been very helpful to me. As a buyer (I’ve been a buyer only since the end of May) you have to have a math background. I know one home economist in business who says, “Oh, don’t bother that pretty little head with numbers.” That’s the fastest way to be shuttled outside as far as businesses are concerned. Numbers is the name of the game in business. I deal with a budget, the percentage increase, the percentage decrease, mark-ups, etc.; you’ve got to have a working knowledge of math.

Everybody has hit fairly hard on communication, but it cannot be stressed enough. Written communication, oral communication, the simple ability to think on your feet: all are very important. If you’re at a meeting and trying to pitch for an additional $20,000 for your budget and somebody asks you a question, you can’t say, “Let me get back to you on that.” You’ve got to stand there, marshal your forces and your arguments, and give a convincing answer. That’s where the effectiveness of speaking ability in a business situation is important.

Somewhere there needs to be a course in hustle. I don’t know what it should be called. Maybe it’s assertiveness training. You must go out there pitching for something. Nobody’s going to knock on your door and give you something because they think you’re a nice person. Forget it. It’s a dog-eat-dog world out there. The people who are up front, who are hustling and looking for the opportunities and going after them, are the ones who end up at the top of the heap. They get the rewards.
In the many years that I have been involved in the fashion world, loving every minute and looking forward to the next, my only concern has been with the persistent—and mistaken—belief that everything in fashion is dependent on France or on Paris. We know in our hearts and in everyday life that this is no longer true. The world—the whole world—is inhabited by creative spirits who understand current life and are able to reflect that life in clothing, just as architects reflect it in buildings and playwrights reflect it in their work. We do have unity in all countries in the world, and I think it is a dreadful shame that we allow ourselves to slip back into feeling that something that began in the eighteenth century is still true today.

I’d like to just put into your minds a few milestones in fashion represented by the designers who thought or set the pace for a fashion period, and you will see that when we begin to count the scale tips in the direction of the rest of the world rather than Paris alone. Let’s just think back through our own time. The word Chanel is certainly synonymous with France, and Chanel did create much that still exists today. She was the first designer to recognize a change in the lifestyles which did not allow for a lot of underpinning or girdles. She put the modern woman into the “uniform” of today. Then came the new look, which put women back into corsets, petticoats, and full skirts. That also began in Paris, with the creations of Dior. Although Balenciaga was a Spaniard who began his work in Spain, his fame really grew in Paris. He, too, is identified with French fashion; and he did create the look of the 1940s and early 1950s. Then France had Courreges, but he was absolutely incidental to and co-existent with an English designer, Mary Quant, who spontaneously introduced the miniskirt and the sort of paperdoll look that Courreges has brought about. Since then there has been a gap in French influence. There have been many great designers there, of course; but it is now basically the world of St. Laurent. Now there are one, two, three, four (maybe five) French names.

Yet in the twentieth century and since the time of Chanel we have had—or I counted—seven American designers who have influenced the entire world, who have given the world a new way to think, to live, to dress. One of them was Claire McCordell. The very first designer to accept the ethnic look, the simple purity of cut and the forming of fabric to the body, she was almost the originator of the American form of bias cut and a truly American designer. Then there is Rudi Gernreich, who brought the cut of the body into being and certainly influenced the whole world of fashion. He threw away all the trickery of the new look and brought it back to basics, from leotards to jumpers and things that just cuddle us; and his effect is still felt all around the world. Anne Klein invented sportswear for everyday life. Sportswear is known to every designer in the world, to every class of costume; yet we frequently toss it off and often forget that sportswear dress is an American invention. Giorgio Di Sant’Angelo really brought the ethnic look into being, long before Carnaby Street and the English designers of that
day had thought of it. I remember when Giorgio won the first Coty Award, in the mid-1950s. I was present at the meeting when the committee discussed him and selected him, and I had literally never heard of him. I didn't know he existed, but just look what has happened to his influence since then. Now we go full circle to the rich uniform, and it is not another French designer but our own American Halston. He brought that about, and brought it about with a textile called ultrasuede. He introduced it to the world, and he made it a world fabric. His look of utter simplicity—not monotony, but uniformity—is a way that people want to look today. I understand that you have Mary McFadden as one of your guests during this conference. She is going to have that kind of influence on the world of fashion, because she has brought the exotic look into very rich, very luxurious life. The look of fashion is no longer tacky or unmade bed or even peasantry. It is the filtering of exotic and oriental and pre-plastic looks through the mind of an artist.

I think that is what we should all consider in terms of fashion today. It is just as much an art form as any of the other art forms in the world. I hope that when we teach young people what fashion is all about we won't talk to them in terms of clothing only, because there is the seed of creative inspiration in every costume that represents the designer's feeling. To me fashion is part of our environment, and I think the public in general is terribly conscious and deeply inspired with the love of decoration and adornment. Even cooking has become an art. There is no such thing as just getting a square meal today. You think of food in terms of the gourmet quality, in spite of hamburgers. (Hamburgers are always played up as the true American dish, but I think we have just as many good cooks here and just as much respect for fine food as any country in the world.)

I thought, since we are still celebrating the Bicentennial, that you might enjoy as I enjoyed knowing some of the things that great Americans have said about fashion through the ages. I looked up these quotes by great Americans as a sort of Bicentennial exercise and because a fashion group in New York asked me to use it as the basis for a show they were going to give last fall for the American market; and now they're going to be published in a paperback book* in the next couple of months. I have just picked these at random, but I think they do follow through and show that fashion has had its place in the minds and hearts of people who had many more important things to think about. Louis Godey of Godey's Lady's Book was speaking from his heart and also in a commercial sense when he wrote in 1860, "Next to the plow, the sewing machine is perhaps humanity's most blessed instrument."

In her very interesting book Two Centuries of Costume in America, Agnes Morse Earle reports:

On the Fourth of July, 1776, the day whereon Thomas Jefferson signed that great creation in the formation of which his brain had such a part—the Declaration of Independence; on that ever-to-be remembered day of days of his whole life, his sole entry in his day-book and in his own "Signer's" hand is this item: "For Seven pair of Women's Gloves, 20 shillings."

And George Washington, who also had great things on his mind, wrote to his nephew in 1782:

In your apparel be modest, and endeavor to accommodate nature rather than procure admiration. Keep to the fashion of your equals, such as are civil and orderly with respect to time and place.

At about the time he wrote this letter, however, Washington ordered a lace head, ruffles, and lapets worth over $500 for his wife. Martha Washington, by the way, was exceedingly vain of her small and

*Quips and Quotes about Fashion. Available from Pilot Books, 347 Fifth Avenue, New York, New York 10016, $2.95 postpaid.
dainty feet and always wore yellow shoes so as to show them off to advantage.

Abraham Lincoln was one great American for whom I had a terrible time finding a quote referring to clothes. I called a biographer who told me that, because he was shy and did not care for clothes, he never wrote anything about them. Then I called the librarian of the Lincoln Library in Springfield and asked her the question. The very next day, I got this quote from her:

It is said by some that men will think and act for themselves—Let us examine this. Let me ask the man who could maintain this position most stiffly what compensation he will accept to go to Church some Sunday and sit during the sermon with his wife’s bonnet upon his head? Not a trifle, I’ll venture. And why not? There would be nothing irreligious in it, nothing immoral, nothing uncomfortable—then why not? Is it not because there would be something egregiously unfashionable in it?—What is the influence of fashion but the influence that other people’s actions have on our actions—the strong inclination each of us feels to do as we see all our neighbors do?

Speech in Springfield, Illinois, 1842
(from Lincoln Encyclopedia)

Abigail Adams had a great deal to say about fashion. In 1784, she wrote to the family friend Thomas Jefferson from Paris:

To be out of fashion is more criminal than to be seen in a state of nature—to which the Parisians are not averse.

Mrs. Adams’s sharp eye never missed a fashion nuance. In 1788 she wrote in a letter from Philadelphia:

They (the fashions) are as various as the changes of the moon. In short, a drawing room frequently exhibits a specimen of Grecian, Turkish, French and English fashion at the same time, with ease, beauty, and elegance equal to any court.

That sounds like the ethnic fashion of today, doesn’t it?

Mrs. Adams was occasionally shocked by fashion, however. In another letter from Philadelphia, written to her husband in 1800, she observed:

The Lay Preacher of Pennsylvania who has published a piece in Fenno’s Gazette of the last week thinks there are some ladies in this city who stand in need of admonition, and I fully agree with him. The style of dress which the preacher attacks is really an outrage upon all decency. Sometimes a crepe made so perfectly as to show the whole form, The arm naked and without stays or bodice, A tight girdle round the waist, and the “rich luxuriance” of nature’s charms fully displayed.

In the 1920s, Will Rogers made a similar observation to a friend: “I never expected to see the day when the girls would get sunburned in the places they do now.”

When he wrote in Poor Richard’s Almanack in 1738 that “philosophy as well as foppery often changes fashion,” Benjamin Franklin was well ahead of his time. We’re reading much the same thing—observations about lifestyles—in today’s press.

In 1848, Harriet Beecher Stowe crusaded against foreign influence in fashion. She wrote as follows:

When a nice little American girl adopts every unnatural fashion that comes from foreign circles—she is in bad taste because she does not represent either her character, her education, nor her good points.

It requires only an army of girls to declare independence in America and save us from the tyranny of French actresses and ballet-dancers. Forward girls! You yet can, if you will, save the republic!

from “Chimney Corner”

I could go on and on telling you what famous folks have said about fashion, but I’d better stop and leave you a reason to buy my book. Before I move away from quotes, however, I want to remind you that Mainbocher, who was (and is) one of the most quotable philosophers of fashion ever, wrote in a 1955 press release, “There is no finality in Fashion.” That’s an appropriate quote with which to end, I think.
In closing I'd just like to talk about inspirations on fashion designers. I think fashion designers are inspired by the work of other designers today. Each designer I know who is worthy of the name is deeply concerned about establishing his own message and his identity. I told Donna Karen of Anne Klein that I was coming over here to talk to textile professors, and I asked her what she thought about textiles. She said, "I think the textiles tell me what to do. I also think this is the cause of a lot of overlapping of ideas. For example, you look at a piece of fabric and it says 'treat me this way,' and at the same time other designers in other countries are looking at that same piece of fabric or the same swatch, and it's saying the same thing to them."

I hadn't thought of that. It impressed me very much because I think the work you all do links the textile to the clothing. Thus, you could establish this link very clearly and improve our understanding of what the designer is saying without causing him to be a copier or an imitator. There is a link between the fabric and the creative idea. There are other things that set everybody thinking in the same pattern, of course; and when people are impressed by a novel, a play, or a movie, the designer is apt to feel that energy and be inspired, too.

Dr. Zhivago, for instance, which began as a novel and then became a film, brought about a trend in embroidered leather coats and sheep linings. It also coincided with the presence in Afghanistan of a hippie named Ira Durrett, who is still over there operating two rug factories, by the way I remember when Durrett brought the first shearling Afghan coats over from Afghanistan to Mallory, which at that time was involved with Anne Klein and her company. They started selling the coats in this country, and of course someone started a campaign in England and in France. It did become a world vote, and it was totally inspired by that Russian look in Dr. Zhivago. When we think of hoop skirts and beautiful off-shoulder necklines, we inevitably think of two other novels/films, Camille and Gone With the Wind. Part of my life is to link those things that impressed people, and I think they're good for people's minds. The little career girl dress with the white collar and the little black dress are tied up with Kitty Foyle very much. I don't think I ever read the book, but I always think of that type of clothes as the Kitty Foyle dress.

The ballet has had an immense influence on textiles, I'm sure, because when Martha Graham began to dance with pieces of stretch jersey she gave a whole new image to creative minds both in textiles and in fashion. I think modern clothes, the type that Claire McCardell did, stem very largely from seeing a modern dance as exemplified by Martha Graham, because she was the first to go totally uncorseted and barefoot and wear that kind of clothes. Then after that the ballet inspired the new look of Christian Dior. Dior told me himself that when he first began to work he was great friends with Christian Berard. They were sitting in a restaurant, and he said he just didn't have any inspiration and didn't know what to do. Berard took a pencil and drew on the tablecloth a girl with a little waist wearing a ballet skirt; and Dior went on to evolve that into the look. Ballet also influenced Claire McCardell, who was the first to use ballet slippers with her simple, early American dresses. I remember when we all wore ballet slippers on the street.

The movies have had—and are still having—a great worldwide influence. The American western has inspired heaven-knows-how-many periods and trends in fashion. Adrian's designs in the late 1930s and early 1940s really invented shoulder pads, although Schiaparelli is the one to whom the broadened shoulders style is usually credited. But even in Schiaparelli's day the French called shoulder pads "la American." Adrian had first used shoulder pads for Joan Crawford, because she had very, very broad shoulders. He built them out and up to get an effect on the screen. That wide shoulder Adrian suit became a world fashion symbol.

Tom Jones was a film that everybody adored, and it inspired the kind of peasant shirt that people have worn ever since. The big sleeved shirt evolved from that one. When the Ginger Rogers dress is mentioned, we instantly picture a dance dress just above the ankle in a floating shift line that is tied
to movement. Cleopatra with Elizabeth Taylor created a world craze for the Egyptian look: the hairdo, the heavy eyelids, the Cleopatra collar, and the cummerbund waistline.

We will not go back for some time to being constricted or constructed. The idea of the body moving freely inside drapery or softly cut material is the modern way to dress. This fashion stems from the belief that the human body is free, and it is carefully cultivated so that we are no longer weak or stiff or anything that doesn't move and care about being active. I think Diane von Furstenberg's hold on fashion is a very final one. It has to do with fit. If a garment fits too tight, one tends to fall out of the top of it. You may think it is very sexy, but it is also thin and clinging and so does not allow you to wear a heavy corset or heavy bra (at least I hope nobody tries). Everything—fabric, design, and lifestyle—is interrelated today.
Consumers and the Textile Flammability Issue

Mary Ann Zentner

The research reported here is a small portion of the consumer survey conducted as part of the Northeast Regional Project, Consumer Market and Laboratory Studies of Flame Resistant Textile Items, funded through state agricultural experiment stations. The purpose of the study was to determine influences on consumer demand for flame resistant textile items relative to their use and care. A self-administered questionnaire was developed to include sections on consumer knowledge of textile flammability issues, use of flame resistant items, desirability of owning flame resistant apparel and home furnishing items, extra cost of these items, types of garments used for children's sleepwear, as well as care practices.

The test-retest method was used to determine reliability. Items which were not considered reliable were either excluded from the study or modified in the final instrument. The respondent was instructed to answer all questions to the best of her ability and was assured that responses would be confidential and used only for statistical purposes.

Frequency and percentage distributions were calculated for all variables. Chi-square analysis was used to examine differences in distributions. More significant differences were found by educational level of the homemaker than with any other variable. These findings are therefore reported.

The sample can be characterized as follows. Two-thirds were in the twenty-five to thirty-four age category; two-fifths were full-time homemakers, and the remainder worked full- or part-time. They were fairly well educated, with approximately one-half having some type of professional training or a college degree. The sample represented both the middle and lower classes. Approximately half of the sample knew of the flammability standard for children's sleepwear, and about one-fifth were aware of the carpet and rug standard. Only 13 percent knew of both standards.

For purposes of chi-square analysis, four educational categories were utilized: less than high school education, high school graduate, some college or professional training, and college graduate. The researcher contends that for the sample selected there were real differences in attitudes and practices associated with the various aspects of the textile flammability situation. Homemakers with some college or professional training and those with college degrees exhibited different behavior patterns from those who were less well educated.
The better educated women who can be referred to as middle class were more likely to have husbands as the heads of households who had approximately the same amount of education as they. They were more likely to own their own homes. This group was more likely to be aware of terms and standards associated with flammability, and they used newspapers and magazines as sources of information on flame resistant garments. Women in the higher educational levels placed a great deal of importance on having their children's clothing and some household textile items made to resist burning. They usually shopped in department stores and specialty shops as opposed to factory outlets or discount and variety stores.

Women with more education usually selected pajamas or gowns for children's sleepwear. Those with less education were more likely to permit their children to sleep in underwear. Better educated women were also more likely to purchase new sleepwear than to utilize garments made at home or passed down from others. These consumers did not feel that they should have to pay more to obtain flame retardant sleepwear. Mothers with lower educational attainment were more willing to pay a dollar more for a pair of children's flame retardant pajamas.

On a number of practices related to the care of children's sleepwear, some differences were observed between those having higher and lower educational levels. Although both groups indicated that they would use similar care procedures for regular and flame resistant pajamas, women with the higher educational attainment were more likely to follow the instructions given on the care label with regard to type of detergent, bleach, and drying practices.

A more detailed discussion of the findings of the entire consumer study will be available in bulletin form within the next few months. A regional technical bulletin has been written and will be published through the cooperation of the Agricultural Experiment Station at the University of Rhode Island.

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Measuring the Extent of Burn Injuries in the State of Rhode Island

Donna M. Branson

In recent years, the serious problem of burn injuries and deaths has been frequently debated among a wide spectrum of special interest groups. Estimates of the number of injuries and deaths attributable to fire and flame accidents in general, and to flammable fabrics in particular, are often quoted. However, one of the limitations of such data is that these estimates of burn victims have rarely been related back to a specific population. This investigation was directed toward examining the feasibility of filling this deficiency.

Three additional objectives of the present study included aims to (1) estimate population-based incidence rates for burn injuries in Rhode Island, (2) study the relative importance of clothing in the outcome of the burn episode, and (3) investigate the socioeconomic characteristics of the burn population.

Four sources of data were gathered and combined to meet these objectives. PAS data were gathered on all burn victims discharged from a Rhode Island hospital for the years 1972 through 1974. A sample of this burn population was chosen for the purpose of an in-depth examination of their hospital medical records, for additional information not contained in the PAS discharge record. Vital statistics data yielded information on deaths attributable to burn injuries. Census data were the fourth data source utilized to determine the specific population at risk.

During the years 1972 through 1974, 738 Rhode Island residents were hospitalized with a primary diagnosis of burn injury. Based on these cases, estimates of age/sex specific incidence rates were derived. For both males and females, the incidence rates for children to age four were at least two and a half times greater than for any other age group. This age group was the only one in which males and females experienced similar incidence rates. In all other age groups, the male incidence rate was at least twice the female rate.

Age/sex specific incidence by socioeconomic status (SES) was estimated. A consistent trend was observed with the high SES group having the lowest incidence rate. The poverty SES group had a rate more than three times that of the high SES group’s rate.

The role of clothing was also investigated for a sample of the burn population, consisting of victims aged 0 to 19. Although clothing ignition cases accounted for only 16.3 percent of the sampled burn victims, the median length of stay of these victims was approximately three times that of patients whose clothing did not ignite. When clothing ignition was examined by socioeconomic status, no clear trend could be detected.

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This study was conducted to determine the effects of broad and narrow waveband irradiation on certain morphological characteristics of Qiana yarn. The broad waveband source included the visible and near ultraviolet regions of the spectrum. The narrow waveband source included that portion of the near ultraviolet region known to deteriorate polyamides; however, the intensity of the two sources in the regions of comparable wavelengths was not the same. Atmospheric conditions of exposures were parallel, but not identical.

Irradiation of Qiana at 350 ± 35 nm caused a loss in breaking strength, a loss in elongation, a decrease in intrinsic viscosity, a downward shift in melting temperature, and peeling of the fiber surface. The loss in breaking strength and decrease in intrinsic viscosity were probably the result of chain scission. The wavelength range had associated energies that compared to dissociation energies of bonds in polyamides. The introduction of a small number of new cross-links or an increase in crystallinity could have caused a loss in elongation.

Average total intensity rather than simply hours of exposure was the significant cause of the changes in morphology that occurred when Qiana was irradiated at 350 ± 35 nm. An average total intensity of $432.00 \times 10^8$ ergs/sec/cm$^2$ was sufficient to cause loss in breaking strength, elongation, decrease in intrinsic viscosity, a downward shift in melting temperatures, and peeling of the fiber surface.

Irradiation of Qiana with a broad waveband source did not show significant change in morphological characteristics. This source of irradiation contained wavelengths from 300 nm to 1750 nm, but the average total intensity of the near ultraviolet region was much lower than the intensity of the narrow waveband source, 350 ± 35 nm. Presumably the intensity was too low to cause any observable changes in the fiber.

For a practical application of this study, Qiana could be expected to have good light resistance if used in draperies. The average intensity of the total ultraviolet light present in sunlight at noon is approximately $1.53 \times 10^8$ ergs/sec/cm$^2$. This study found degradation of Qiana to occur after ultraviolet exposure at an intensity of $432.00 \times 10^8$ ergs/sec/cm$^2$. This intensity is over 400 times greater than the intensity of ultraviolet light present in sunlight.

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Cylinder Printing of Textiles in America Before 1850

Jeanette Bowker

The purpose of this study was to carry out a search within the state of Rhode Island for evidence of the cylinder printing industry before 1850. More specifically, it attempted to locate the fabrics produced, to establish possible names and dates of printworks operating within the state at that time, and to trace the development of the decorative designs of these fabrics.

There had been a few attempts to block print fabrics in the eighteenth century. Copperplate printing, the technique to succeed block printing, evidently was never tried in America. A third technique, that of printing with a rotary cylinder press, was patented as early as 1785, by Thomas Bell in England, but the process did not develop as an industry in the U.S. until after our cotton cloth manufacturers began producing plain fabrics in excess of the market demands.

The impetus that was to launch cylinder printing into a full scale industry came in 1829, with, ironically, a great depression. Money was scarce and the markets were overstocked with plain goods from the cotton mills. Cylinder printing was an inexpensive way of changing the character of the plain goods. Patterns and colors created a new market for the cottons immediately. The printing industry expanded rapidly and within six years was producing 120 million yards of fabric in one year's time.

What did America's first prints look like? What quality were they? Who created the designs? Where are the documented samples of these prints? It would seem like these questions could be easily answered. Yet, very little has been written about them, and letters to many of New England's museums and historical societies confirmed that the first cylinder prints were very scarce.

Because many of the early printshops were established in Rhode Island, this study limited the search for American fabrics printed before 1850 to the state of Rhode Island.

Fortunately for historical interests, the early cylinder printing shops employed dyers who kept records of their experimentation with new and old dye receipts. Chances are there were very few European dye manuals in the United States during the 1820s and early 1830s due to England's restrictions on the exportation of technology to America, so receipts were tried, recorded, and passed along or sold to other dyers. To record the results of attempts with each receipt, the dyer would usually include a sample of the fabric. Sometimes, in an effort to improve the color, the dye formula was repeated at varying lengths of time or degrees of heat and then samples of the series of attempts were saved by the dyer.

Although various other evidence was studied for this research, the work of three dyers (Samuel Dunster, Edmund Barnes, and Daniel McCarthy) provided the basis for determining the type of designs and the quality of our first cylinder printed textiles. It was found that these early printed designs from the first half of the nineteenth century reflected the growing desire for producing large quantities as efficiently and economically as possible. The earliest designs appear to have been skillfully etched by the artisans, but quality was more or less abandoned in the 1830s for less imaginative, flat geometric motifs. During the early 1840s a rather bizarre type of design must have been in demand, as the receipt books held numerous samples of prints displaying grounds effecting patchwork with stripes or meandering lines interlaced over the patch design, all of this done in the drab colors (blue, green, tan, gold) outlined in white. The American shops evidently did try to satisfy the desire for variety, because designs frequently were printed in different combinations of colors.
For the amount of calico produced and the importance of it to most households during the years between 1829 and 1850, surprisingly little has been written about these fabrics. They do not match the high aesthetic quality of the better European prints of the time, but they serve a significant role in the history of the textile industry of America. Domestic calicoes within a short time provided inexpensive dress goods at a lower price than imports of the same quality and at the same time provided greater economic security for the cotton mills.

The quality of American calicoes rivaled England's lower priced prints; but generally higher quality was not encouraged by either the government, through protective tariffs, or the populace, through a demand for finer fabrics. Apparently, what did have the greatest impact on the quality of American calicoes was the attitude which developed toward art and craftsmanship as America became more industrialized, emphasis being placed on mass production of the largest quantities at the least expense.

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The Development of the Navaho Rug as Influenced by Trader J. L. Hubbell, 1890–1920

Joann Ferguson Boles

The need to extend historical knowledge of the Navaho rug, a truly American art form, has led the author to attempt to determine, both from visual inspection of relics and from written documents, the developments which took place in Navaho tapestries between 1890 and 1920 under the influence of J. L. Hubbell. The study included the time period 1890–1920 because this was the period in which the Navaho blanket became a rug. The rug evolved from use of the blanket on the floor and as a wall hanging. The flexible blanket also became heavier and at the same time acquired a bordered format. The turn of the century was also known as the trader period of the rug business, for it was the trader who acquired the white business and facilitated many of the changes from blanket to rug. The trader J. L. Hubbell was selected for study because he was one of the most successful and important traders of the period and maintained his position as trader from 1878 until his death in 1930.

The specific objectives developed for the study were (1) to analyze rug studies1 in the Hubbell collection, (2) to seek Navaho rugs which had direct correspondence to the rug studies, and (3) to examine Hubbell papers to provide written documentary evidence of J. L. Hubbell’s influence on the development of the Navaho rug.

The procedure involved extensive reading of secondary source material, correspondence with museums and researchers, and three research trips. The three research trips included fifty-one days of on-site research at the following locations: The Smithsonian, National Museum of Natural History, Processing Laboratory, and Anthropological Archives; The Library of Congress; The National Archives; Arizona State Historical Society, Tucson; University of Arizona Library, Special Collections, Tucson; Hubbell Trading Post National Historical Site, Ganado, Arizona.

The analysis of data was handled in a descriptive manner. The findings related to analysis of rug studies in the following areas: painters of the studies, models for the studies, Munsell color designations, ground colors, color combinations, inner design motifs, border designs, relationship between inner design motifs and borders. Findings related to rug studies’ direct correspondence to Navaho rugs were in the areas of color combination, border and interior design motifs. Findings related to examination of the Hubbell papers were in the areas of rug color, design, size, fiber, use, construction, and advertising.

The findings in the seventeen areas of analysis were much too extensive to be included here; therefore, the researcher has briefly summarized the findings related to the models for the rug studies. The rug studies were important because they have hung at the Hubbell Trading Post since the turn of the century for viewing by both weaver and buyer. The models for the rug studies were primarily selected by J. L. Hubbell from good old Navaho designs. One of the study artists, E. A. Burbank, also selected models for the studies primarily from collectors in the Chicago area. Others also wrote to Hubbell about rugs of good design that might serve as models for the studies. All the data regarding models came directly from correspondence included in the Hubbell papers.

1"Rug studies" refers to seventy-four oil paintings of Navaho rugs commissioned by J. L. Hubbell. The studies have hung at the Hubbell trading post since 1900.
The conclusions based on the findings presented a dichotomy of the trader J. L. Hubbell. Hubbell had a deep appreciation for the Navaho and his art form, the rug, while at the same time he was an astute and successful businessman. The findings also presented a dichotomy of the Navaho weaver. She too had a deep appreciation for her art form and was a wise businessperson. With Hubbell's suggestions the Navaho weaver selectively assimilated and developed a style known today as the Ganado style, which answered the needs of the non-Indian buyer and retained the Navaho motifs and Navaho flavor in a new format.

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The Effects of European Study Tours in Textiles and Clothing on Students

Mary Barry
and
Dianne Walker

During the summers of 1975 and 1976, Auburn University and the University of Georgia cosponsored a European Study Tour in textiles and clothing. Textile producers, designers, boutiques, large retail establishments, fashion magazine publishers, and historic textile and costume collections in museums were visited.

To determine the effect of their experiences, a pilot study was conducted in 1975 with both experimental and control groups. The experimental group went on the tour while the control group stayed at home. Using a pre-post test design, each student was given three tests. The Counseling Form of the Tennessee Self Concept Scale was administered to look at self concept with subscales examining self criterion such as open vision and an extended world view. The Omnibus Personality Inventory was used to show how a person can change in orientation and perspective. Finally, the Student Developmental Task Inventory was administered to measure developmental levels of behavior.

Some of the findings from the 1975 pilot study revealed that the experimental group scored significantly higher than did the control group in personal integration, theoretical orientation, and tolerance. Gain was also reflected in mature life style plans.

Research for the 1976 tour included a pre-post test design utilizing the Student Developmental Task Inventory, the sixteen-question Personality Factor Test Questionnaire, and a fifteen-question survey to reveal personal data. Findings (comparing post-test to pre-test) show that the experimental group gained significantly in instrumental autonomy, interdependence, developing autonomy, developing purpose, and mature career plans.

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Self-initiative and self-motivation are two characteristics students must possess if they are to succeed in a rapidly changing and competitive world. Interest in helping students learn to think and work independently prompted instructors in Auburn University's Department of Consumer Affairs to implement audio-tutorial methods in teaching clothing construction. Advantages of audio-tutorial methods found in past studies include improvement in skills of inquiry, exposure of every student to the same information, better utilization of student time, significant increases in students' grades, and covering increased amount of subject matter without additional learning time.

A pilot study using an audio-tutorial method was conducted at Auburn University during the fall quarter of 1975. A section of CA 105, Fundamentals of Clothing, taught by an audio-tutorial method was compared with a section of CA 105 taught by the traditional lecture/demonstration method. Each section contained twelve students. The audio-tutorial section used 3M "sound-on-slide" equipment. A unit of pattern alteration which included laboratory exercises in actual alteration of half-scale patterns was programmed. Half-scale patterns and other instructional materials needed in completing assignments were given to the audio-tutorial section in a task booklet. Performance objectives were defined for both sections.

In the traditional lecture section the instructor demonstrated the appropriate pattern alterations in addition to explaining the principles and techniques of pattern alteration. The audio-tutorial section signed up at random times to come in and review the programmed material.

Scores of the traditional section and the audio-tutorial section were compared on a common pre-test and post-test. The audio-tutorial group showed an overall average improvement of 23.59 percent, while the traditional group improved an average of 15.20 percent overall. Over one-half of the subjects in the audio-tutorial, or 54.5 percent, improved 25 percent or more. Only 16.66 percent of the students in the traditional section improved as much as 25 percent.

Based on the pilot study, a grant for equipping an audio-tutorial center was obtained for the Consumer Affairs Department. After surveying the market and consulting with campus specialists, it was determined that the Kodak Ektographic carousel, the Telex recorder-player, and the Telex cassette copier would best meet the desired educational objectives for the following reasons:

1. reasonable initial cost
2. relatively simple and trouble free operation
3. simultaneous reversal feature of both sound and slide at any time for review
4. less expensive software and replacement parts
5. efficiency in duplicating programs for multiple units and less expensive duplicating equipment
6. favorable service contract
After using the audio-tutorial center quite extensively, instructors recognize many advantages of using audio-tutorial methods in clothing construction classes. They feel the system:

1. Makes better use of student time by:
   a. Allowing more students to bypass parts of an instructional system where strength is existent (basis = pre-test).
   b. Allowing opportunity to do remedial work within a self-imposed time allocation without jeopardizing mastery of existing course requirements (basis = post-test).
   c. Providing incentives for successful completion of learning activities by helping students recognize areas of strength and weaknesses immediately within the context of the achievement process, thus enabling them to respond immediately to exaggerated needs.

2. Instills greater self-motivation and self-management in students, thus encouraging them to think and act independently in extended situations beyond the classroom.

3. Enables transfer students who are lacking knowledge and/or skills in a given area of a prerequisite course to study in those areas of weakness rather than move directly into an advanced course without the background knowledge needed.

4. Provides teachers with more instructional options, which stimulates creative efforts in instructional development and reporting.

5. Gives instructors a greater familiarity with each student's progress and problems, therefore helping them respond to each student's needs with a greater degree of accuracy.

Address: Vondalyn J. Hall  
Auburn University  
Auburn, Alabama 36830
Innovative Instruction for Basic Textiles

Adele Smith

Introduction

Course

Basic Textiles (3 cr.) for home economics, fashion merchandising, and interior design majors.

Text

Textiles by Hollen & Saddler; Fabric Swatches from Fairchild

Course Structure

Module

Students receive a competency-based module which includes required competencies, criteria, instructional strategies, and evaluation techniques, plus an outline of weekly assignments.

Instructional Strategies

Open Note Tests. Students are given one question taken from module. Notes only may be used. This forces students to be prepared. Class moves much faster.

Textile Reports. Students are required to read and summarize a minimum of four articles.


Weaving Project. Cardboard loom weaving using basic weaves.

Optional Projects. Comparative property charts; fabric collage showing various weaves, finishes, etc.; at home experimentation with dyes through tie-dying or batik.

Class Organization

Ten minutes for textile reports, ten minutes for open note test, one and a half hour for lecture, one hour for fabric analysis.

Fabric Analysis

Student groups receive a tray of fabrics discussed that day, a written analysis sheet, and a cassette recording. The recording and analysis sheet provide students with specific information about each fabric. The technique is like having an instructor working with each group. Fabrics are rotated. An instructor rotates between groups to answer specific questions. This method of analysis lends itself to large or small group instruction, self-paced individualized instruction, or to independent study. Fabrics are made available for one week following class for those students who desire extra time to study the materials or for students who were absent.
Evaluation Techniques

75% - Open-note test questions (best four out of five, each question worth twenty-five points; questions together count as one unit test)

Unit test (three or four during quarter; each one very thorough)

Final exam (comprehensive through fabric analysis and identification)

25% - Textile articles

Weaving project

Fabric file (includes 110 swatches)

Optional activities

Address: Adele Smith
Assistant Professor, Clothing and Textiles
Florida International University
Tamiami Trail
Miami, Florida 33144
Clothing Experience with the Elderly

Walda E. Iscan

The State University College at Buffalo was fortunate to have residents from the county home housed in one of our vacant dormitories, called the High-Rise, for three years. This arrangement took place since the county home was being remodeled and the university had vacant dormitory space.

During the summer session I offered a course in family clothing for graduate students who were junior or senior high school home economics teachers. With the fortunate accessibility of the elderly residents, I decided to emphasize clothing for the elderly in the course. The family clothing course was designed to provide the students with a learning through discovery experience in which the students would become familiar with all aspects of the elderly. The overall objective of the experience was to enable the student, through association with the elderly, to design and construct a garment for an elderly individual.

Through cooperation from the staff at the county home, each of the sixteen students who were enrolled in the six-week summer session course was assigned to a female resident. The student visited with the resident as often as her schedule permitted, at least twice weekly in order to become acquainted with the resident and thereby learn (from a first-hand experience) more about the elderly in order to design (by flat pattern) and construct a garment for the resident. After becoming familiar with the resident, the student chose a garment design, usually by looking through pattern books with the resident to get the basic idea of a garment that the resident would like. The student then designed a garment, taking into consideration the physical features and limitations of the resident. The garments were first made in muslin for fitting and then constructed in fabric. Many of the students took the elderly on shopping trips to select the fabric.

Students at the beginning of the summer session developed a rating scale by which they could rate a resident's appearance (twenty-two characteristics), psychological outlook (fifteen characteristics), conversation (six characteristics), and the appearance of the resident's room (seven items). These were developed into a five-point scale with three of the five levels described in detail. Each student filled out the rating scale the first time she visited the resident and during the last visit at the end of the six-week period.

Each student also did a term paper on characteristics and clothing needs of the elderly. Class lectures supplemented and clarified the practical experience. Community individuals who worked with the elderly were invited to speak to the class. Classes were one and one-half hours in length and met every day at the beginning of the summer session and later only three times a week, as students spent more time with the residents and their projects.

Analysis of the rating scales completed by the students on their first and last visit showed an increase in points from the first to second rating. The total mean increase was 29.7 points. Due to the small sample size, it was impossible to calculate statistical significance. However, taken as a crude measure and perhaps as a subjective measure (as filled out by the students), it would appear that the residents in the six-week period did benefit from the frequent visits and attention of the students. The diaries kept by the students of their visits with the residents were particularly revealing. Analysis of the diaries revealed that each student increased in her awareness of the problems the elderly face in today's society and also became more concerned about the elderly.
The students found making the garments for the residents an interesting experience. Often when the resident was told that the student would be making a dress for her, the resident inquired if she would have to pay for it. Assured that she would not have to pay (the student paid for it herself), the resident then became enthusiastic about the project. At the end of the project, however, after they had their garments, many of the residents wanted to pay for the dresses. This offer was refused, of course, but it showed a definite change in attitude. The residents were, on the whole, fairly specific about the type of garment they wanted. They wanted in general a garment with pockets, one that would not show soil, was washable, fastened in front, had loose sleeves, no waistline, needed no ironing, had no buttons or flat, large buttons. The residents were very cooperative in the garment project, allowing the students to take their measurements and do the fittings. They became very excited as the dress began to take shape and were anxious to wear it.

The culmination of the project was a fashion show. This was put on in the lounge of the High-Rise, and all of the male and female residents of the High-Rise were invited to attend. The staff at the High-Rise went all out in getting ready for the fashion show. They decorated the lounge beautifully and provided refreshments after the fashion show. The Buffalo Courier Express newspaper and Channel 7 television covered the fashion show and project. The residents were quite excited about the fashion show. Each student walked on stage with her resident and did the commentary on the garment, which helped the resident to feel less nervous about modeling.

I would like to summarize with a comment from one of the students. She ended her diary by saying, "This assignment has been interesting for me and is the kind of learning experience I try to set up for my students. It was something experienced, learning through discovery: a situation set up for you, but 'real. I believe that concepts are felt rather than read, and this experience touched me in many ways."

Bibliography


Address: Dr. Walda E. Iscan
Assistant Professor
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Department
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State University College at Buffalo
1300 Elmwood Avenue
Buffalo, New York 14222
Innovative Teaching Techniques for Clothing Construction*

Florence B. Ogle

Harry S. Truman once said, “The only things worth learning are the things we learn after we think we know it all.” I’m beginning to think he was right; at least learning new things makes life more exciting. In the past two years, I’ve been subjected to so many new techniques through workshops, seminars, and tips from various companies that my file is starting to bulge with new ideas I’m anxious to share with students. For some of the techniques I’ve learned, I had only notes and sketches from lectures and demonstrations. To make it easier to keep students informed on what is new, I sought to present the new or improved technique in step by step samples mounted on a chart. Personnel in my institution’s Graphics Department sketch the steps as shown on the chart. Directions to go along with sketches are typed and ready for distribution.

Transparency 1—double welt pocket instruction sheet. The double welt pocket has been with us for a long time, but the technique for getting an easy even welt with all stitching done on interfacing that is marked makes this method easy and foolproof. In fact, the demonstrator called it “the bonehead method.”

Transparencies 2 and 3. This is the size of the original sketching of the welt pocket illustrations as done by the Graphics Department. Sketches are then reduced 60 percent so they can be cut out and attached to direction sheets in the proper sequence. This method of the welt pocket is used in tailoring menswear with the double welt pocket.

Transparency 4—commercial zipper. Another technique presented by a teacher of commercial techniques that could be adapted to home sewing was the lapped zipper put in before the seam is stitched. She had no instruction sheet or sketches, so we used the same method of making the samples and having them sketched.

Transparencies 5, 6, and 7—the original sketches of the zipper steps. I have duplicated both techniques. I tried different ways of having the techniques available for all classes at all times, including a flip chart on a stand (that took up more space than we had available), and folders taped together to make a long fold-out for the steps (this would be filed and out of sight). I needed a means of having these ideas on display at all times to motivate the students to try the new ideas. We hit on the idea of a chart plan holder. This served our purpose in other ways also. Each wall mount has twelve brackets which hold twenty-four charts each. There are two side-by-side, and we can display forty-six charts at one time. The brackets remove easily or, with a flip of the screw, the chart is easily removed to be used by the student. The brackets fan out for easy location of wanted construction techniques. The first slides are of the chart holder on the wall.

Slides

1. The double welt or buttonhole pocket for which directions were given on the transparency.

2. The same "bonehead" technique used in the tailoring menswear class for the double welt pocket with flap.

*Transparencies and slides used in this highly visual presentation were unfortunately not available for inclusion in the proceedings.
3. Also in the tailoring menswear class, the inside welt pocket is done the same way.

4. This is the modified welt pocket done the bonehead method.

5. The three different methods of the tailored buttonhole. The patch method is done with the new method. Where you originally had to make your own folds to get the welt, you can now do it more easily by stitching.


7. The shirt-sleeve opening is not new, but the method is. You start with a rectangle piece of fabric, and the point is made automatically and simply. It is also a foolproof method of easy matching of plaids.

8. Waistband.


11. Another patch pocket method.

12. Types of hems.

In tailoring class, we use:

13. Tailoring of knits: how to handle iron-on interfacings and methods of using interfacing in place of pad stitching in lapel tips.

14. Tailoring of knits.

15. Traditional tailoring techniques.

16. Traditional tailoring.

17. Traditional tailoring.

18. The pocket and flap used in traditional tailoring class or in advanced class. The welt can be done the bonehead method.

19. The undercollar.

20. The fly front zipper is used in advanced and tailoring menswear classes.

21. Ways of topstitching and kinds of thread that can be used. An example is made of each method and each thread to give the student an idea of how it might look on fabric.

Even my pattern alteration class gets into the act:

22. Poor unhappy sleeve—one of the most difficult to adjust and fit properly . . .

23. But we know how to make it smile . . .

24. With an easy alteration.

25. We have to prove to the students that the armhole changes in size with the alteration. The sleeve on the left is made up in do-sew before alteration. The sleeve on the right is made after the alteration. The students can measure and prove it to themselves.
Transparencies 8 and 9—pants alteration. This is a transparency of the direction sheet. In teaching this to the students, I keep a pants pattern that has been reinforced with back-a-pattern in my file. The chalkboard is metal and with the magnetic clips makes an easy place to demonstrate. If you have a bag in the rear and a smile in front, try this technique.

Address: Florence B. Ogle
Assistant Professor
Clothing and Textiles
School of Technology
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Miami, Florida 33199
MINUTES OF THE BUSINESS MEETING

October 29, 1976, New York, New York

1. Barbara Stowe convened the business meeting at 8:40 a.m.

2. Minutes from October 1975 business meeting were accepted. Motion by Enid Tozier, second by Mary Ann Zentner.

3. Treasurer Gaydos asked for acceptance of the treasurer's report as circulated.

   Receipts

   Balance January 1, 1976 .......................................................... $3,315.45
   National dues rebate 8/1/75 - 10/31/75 .................................. 260.00
   National dues rebate 11/1/75 - 3/31/75 .................................. 45.00
   National dues rebate 4/1/76 - 7/31/76 .................................. 380.00
   Interest on savings account 2/27/76 ....................................... 29.65
   Interest on savings account 5/28/76 ....................................... 30.03
   Interest on savings account 8/31/76 ....................................... 24.15

   $4,084.28

   Expenses

   Dues to AHEA for 3 members who paid ACPTC dues at annual meeting ................... $ 45.00
   Expenses of Council members at 1976 meeting planning session in New York .................. 812.74
   Listing of all 1975-76 ACPTC/ER members from AHEA ............................... 10.00
   Duplication of slate and ballots for National ACPTC board ....................... 3.60
   Cost of Eastern Region for combined proceedings ................................ 479.65
   Printing, art work and materials, mailing of newsletters ............................ 273.16

   $1,624.15

   Balance .......................................................... $2,460.13

On motion by Eileen Frances, second by Karen Gash, treasurer's report was accepted.

4. The following officers were introduced:
   Barbara Stowe, Chairperson
   Lois Gurel, Chairperson-elect
   Nancy Salford, Secretary
   Mary Ann Gaydos, Treasurer
   Barbara Nordquist
   Dianne Walker
Local arrangements committee—chairperson Phyllis Tortora, members Susan Stark, Nell Ollinger, Christine Pratt, Darlene Kness—was given a vote of appreciation.

Other committees were recognized:

- **Evaluation**
  - Ann Messer
  - Adele Smith
  - Vondalyn Hall

- **Proceedings**
  - Dianne Walker
  - Jane Harvey

- **Membership**
  - Mary Ann Zentner
  - Kathy Jansen

- **Nominations**
  - Oris Glisson

- **Auditing**
  - Billie Murphy
  - Eleanor Quick

- **By-laws**
  - Lois Gurel
  - Enid Tozier
  - Evelyn Stout

5. **Registration.** Mary Ann Gaydos reported 115 registered full time, 8 registered for 1 day only. Barbara Stowe noted that 96 had registered for the 1975 Atlanta meeting.

6. **Membership.** Mary Ann Zentner reported that the following lists have been obtained in an attempt to increase membership:
   
a. List of appropriate Cooperative Extension professors.
   b. AHEA — T & C list.
   c. AHEA — research section list.

Dr. Zentner urged membership to encourage new faculty to join the association.

7. **Proceedings.** The Georgia Center for Continuing Education compiled the 1975 combined proceedings at a cost of $3,980.77. Our region paid $479.65. Extra copies have been sent to Darlene Kness. Contact her if you want one. Enid Tozier suggested that the proceedings availability be announced in AHEA Action.

8. **Newsletter.** Nancy Saltford, for Carole Johnson, reported on the **Newsletter** evaluation:

   The June 1976 **Newsletter** evaluation forms were returned by 23 people, 10 members and 13 non-members.

   **In support** of continuing the **Newsletter**—There were good evaluations from those who did respond. The **Newsletter** is a way to communicate with the "outside." We have a willing editor to take on the job for next year.

   **Against** continuing the **Newsletter**—Carole Johnson, as editor, had very little cooperation and support from the membership. People promised material but then didn't follow through. It is difficult to make items timely, so it is not really a "news" letter.
After much discussion, it was decided to continue the *Newsletter* (Phylis Tortora moved, Jessie Warden seconded). An evaluation of the process as well as the *Newsletter* itself should be the function of the *Newsletter* committee to be appointed by the chairperson. It was recommended by Enid Tozier that the Executive Council budget for *Newsletter* planning.

9. **ASTM—D 13 Committee.** Barbara Stowe reported to the membership the ASTM interest in having ACPTC members work on D 13 committees. Enid Tozier moved that the Chairperson of Eastern Region appoint a committee to investigate the relationship with ASTM. Eileen Francis seconded. Motion carried.

10. **AHEA—ACPTC-ER Relationship**
    Membership criteria for ACPTC now includes AHEA membership.
    Barbara Stowe and Mary Ellen Roach Higgins met with Lynn Rhoads and Betty Ruth Joyce at AHEA to explore ways to associate with AHEA. Possibilities:
    a. constituent group—some services
    b. related group—may have members not in AHEA, but if members qualify they must belong to AHEA
    An option discussed was an executive secretary.
    Costs need to be determined.
    Mary Ellen Higgins noted that issues seem to be:
    a. costs/services
    b. membership criteria—who wants to be (or whose group wants them to be) in ACPTC—ER, who is not now a member?

    Types of membership for AHEA were noted:
    a. active
    b. associate
    c. reserve
    d. honorary
    Amelia Adams reviewed the history of the relationship between ACPTC—ER and AHEA. Major problems: members of ACPTC don’t want to pay for AHEA; services not adequate.

    Costs of AHEA services this year $660. AHEA estimates one secretary one day a month at $40. Additional charges are for other items.

    Barbara Stowe asked for a “sense of meeting” ballot regarding continued relationship to AHEA.

11. **Cycle billing by AHEA** was explained by Barbara Stowe. It was noted that if you join AHEA late in the year, you may lose some services.

12. **By-laws.** Lois Gurel discussed national by-laws. The first vote brought forth 89 ballots out of 700. She noted that articles 7, 9, 10, and 13 were particularly controversial and urged each member to send in the ballot. Vote by November 15.

13. Appreciation was expressed to the local arrangements committee for a “job well done” for this meeting.

14. The meeting was turned over to Lois Gurel, the new president. She made the following announcements:
c. Research papers for presentation at annual meeting. We need more papers—faster. She urged members to respond to the call for papers more rapidly. Research and teaching trends by faculty and graduate students are of interest.

15. Meeting adjourned at 10:40.

Respectfully submitted,

Nancy Saltford
Secretary
REPORT OF AUDITING COMMITTEE

Balance — January 1, 1976 .......................................................... $3,320.45
National dues rebate 8/1/75 – 3/31/76 ........................................... 305.00
National dues rebate 4/1/76 – 7/31/76 ........................................... 385.00
Interest on savings account ......................................................... 108.28

$9,348.86

Expenses:

Dues to AHEA for members who paid ACPTC dues at 1975 meeting ........ $ 45.00
Expenses of council members at 1976 meeting planning session in New York ........ 812.74
Listing of all 1975–76 ACPTC/ER members from AHEA ....................... 10.00
Duplication of slate and ballots for National ACPTC board ..................... 3.60
Cost to Eastern Region for 1975 combined proceedings ....................... 479.65
Printing, art work and materials, mailing of newsletter ....................... 273.16
1976 conference expenses, New York ............................................. 2,681.51
Expenses of council members at New York meeting ............................. 270.12

$4,575.78

Balance on hand January 1, 1977 ..................................................... $4,773.08

Respectfully submitted,

Billie G. Murphy
Eleanor Quick
Field Trip Contacts

At the request of some conference participants, the following field trip possibilities in New York City are listed. Please be aware that the names of persons to contact may have changed since these lists were prepared.

1. Interior Design Resource Center trips. Contact:

   Mrs. Rosalyn Burrows  
   Education Council of Resources Council 
   Franciscan Fabrics 
   964 Third Avenue 
   New York, New York 10022 
   Telephone: 212/421–9170

2. Fashion house trips. Contact:

   Mr. Jasper Peyton, Jr.  
   Assistant Educational Director 
   International Ladies Garment Workers Union 
   1710 Broadway 
   New York, New York 10019 
   Telephone: 212/265–7000

3. Burlington. Contact:

   Dr. Nancy Sears  
   1345 Avenue of the Americas 
   New York, New York 10009 
   Telephone: 212/333–6380
## BUSINESS TOURS OR DEMONSTRATIONS

<table>
<thead>
<tr>
<th>Company Address</th>
<th>Time Schedule Days Available</th>
<th>Person to Contact/Advance Arrangements</th>
<th>Description</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butterick Fashion Marketing Company</td>
<td>Tuesday, Wednesday, Thursday 10:00a.m. or 1:00p.m.</td>
<td>Elaine Schmidt 212/620-2533 Three months ahead</td>
<td>Brief talk and slide presentation tracing the making of a pattern from its designer to its packaging. Tour Fabric Library and Pattern Making Departments. Career Information. Duration: 1½ hours.</td>
<td>Limited to college age groups, textiles and clothing students, women's home economics groups.</td>
</tr>
<tr>
<td>Coats and Clark, Inc. 430 Park Avenue New York, N. Y. 10022</td>
<td>Tuesday, Wednesday, Thursday 10:00a.m.; 2:00p.m.</td>
<td>Janet Klaer 212/935-5487 Two-six months ahead</td>
<td>History of Company, Career Opportunities. Tour of Educational Department. Duration: 1 hour.</td>
<td>Group limited to 20 and specifically those interested in Textiles and Clothing or Business.</td>
</tr>
<tr>
<td>Good Housekeeping Institute 959 Eighth Avenue New York, N. Y. 10019</td>
<td>Monday-Friday Between 10:00 a.m. and 4:00 p.m.</td>
<td>Willie Mae Rogers 212/262-6294 Well in advance</td>
<td>Institute facilities including laboratories, workshops, beauty clinic, sewing center and kitchens. Duration: 1 ½ hours.</td>
<td>Must be at least 12th grade students.</td>
</tr>
<tr>
<td>Pellon Corporation Design and Research Apparel Center 141 West 36 Street New York, N. Y. 10036</td>
<td>Monday-Friday 9:00 a.m.-5:00 p.m.</td>
<td>Bonnie Clark 212/867-9110 Three-four weeks notice</td>
<td>A tour of current interfacings, especially fusibles; their uses in garments; the test center. Duration: 1 hour.</td>
<td>Restricted to maximum of 20 people of college age, preferably studying in the field of clothing and textiles. Limited samples available.</td>
</tr>
<tr>
<td>J. C. Penney Company 1301 Avenue of the Americas New York, N. Y. 10019</td>
<td>Monday-Friday 10:00a.m. or 2:00p.m.</td>
<td>Lenore Fox 212/957-4840 or 212/957-6912 Two weeks notice</td>
<td>Tour consists of a speaker concerning the group's interests, the Merchandise Testing Lab, Photo Display Studios and a Buying floor.</td>
<td>Limited to children of High School age (14 years and over); 35 people at one time.</td>
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<tr>
<td>Simplicity Pattern Company, Inc.</td>
<td>Tuesday and Thursday 10:00a.m. &amp; 2:00p.m.</td>
<td>Ann Krajci Sherry Hayner 212/679-3700 Ext. 208 At least one month ahead</td>
<td>Full color movie about Simplicity Pattern Company, From Our Hands To Yours, and tour covering the phases of Design, Patternmaking, Testing, Primer, Measuring, Grading and Art. Duration: 1½ hours.</td>
<td>Limited to Senior High School age and older. Home economics clothing students preferred. No more than 20 or less than 8. Special arrangements sometimes made for very large groups.</td>
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## TOURS ON LIMITED BASIS

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<tr>
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<th>Person to Contact/Advance Arrangements</th>
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<th>Other Information</th>
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<tbody>
<tr>
<td>Co-Ed/Forecast</td>
<td>Depends on schedule.</td>
<td>Patricia Cobe 212/667-7700 Ext. 546 Call first.</td>
<td>45 minute tour of office.</td>
<td></td>
</tr>
<tr>
<td>Con Edison</td>
<td></td>
<td>Grace Richardson 212/460-5171 Two weeks in advance.</td>
<td>Not tour as such but presentation by a Consumer Affairs Specialist of programs provided in community. Duration: 1 hour.</td>
<td></td>
</tr>
<tr>
<td>Dudley-Anderson-Yutzy Public Relations, Inc.</td>
<td>Limited basis; special circumstances only.</td>
<td>Ruth Fairchild Pomeroy 212/983-7580</td>
<td>Tours geared to special interests.</td>
<td></td>
</tr>
<tr>
<td>Redbook Publishing Company</td>
<td>By special request.</td>
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## TOURS ON LIMITED BASIS

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</thead>
</table>
| Sears Roebuck and Company  
1633 Broadway  
New York, N. Y. 10009 | Only by special arrangement.  
9:30–11:00 a.m.  
2:00–4:00 p.m. | Genevieve Smith  
212/977–5458  
At least one month ahead. | Operation of textile testing laboratory.  
Duration: ½–1 hour. | No children or high school students; only home economists interested in clothing and textiles. |
| Theodore R. Sills, Inc.  
866 Third Avenue  
New York, N. Y. 10022 | Monday–Friday  
9:00a.m. to 5:00p.m. | Jan Linn  
212/752–8610  
Limited basis; advance arrangements necessary. | Test kitchens and description and demonstration of actual promotions and publicity programs done for clients.  
Duration: Varies with group and interests. | Limited to classes or fairly good-sized groups. Consumer information leaflets available. |
REGISTRANTS

Eleanore Adam
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Tallahassee, Florida 32306

Amelia E. Adams
330 Brambleton Avenue, Apartment 315
Norfolk, Virginia 23510

Aurelia K. Adams
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University Park, Pennsylvania 16802

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University of Rhode Island
Kingston, Rhode Island 02881

Dr. Mary Barry
Auburn University
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Dadeville, Alabama 36853

Dr. Madelyn Biggs
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Norfolk, Virginia 23504

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Virginia Polytechnic Institute & State University
Blacksburg, Virginia 24061

Jeanette Bowker
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Blacksburg, Virginia 24061

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Barb Burns
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Mary Carden
College Misericordia
Dallas, Pennsylvania 18612

Dr. Virginia V. Carpenter
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University of Rhode Island
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Thirty-First Annual Conference
The Monteleone Hotel
New Orleans, Louisiana
October 27–29, 1976

PROGRAM

WEDNESDAY, OCTOBER 27

6:00 p.m. Executive Board
7:00 Registration
8:00 Reception

THURSDAY, OCTOBER 28

8:00 a.m. Registration
8:30 General Session
Presiding: Dr. Marcia Metcalf
Keynote: Mr. Robert Sakowitz, President, Sakowitz, Inc., Houston
How to Succeed in Teaching—By Really Trying: Dr. Richard E. Owens, Kansas State University
10:30 Coffee
11:00 General Session
Presiding: Dr. Patricia Horridge
Functional Clothing: New Directions for Textiles and Clothing
—Ms. Susan Watkins, Cornell University
12:30 p.m. Luncheon
Presiding: Dr. Mary Don Peterson
Textiles, Fashions, and International Trade: Dr. Richard G. Arellano, University of New Orleans
2:00  Business Meeting  
   Presiding: Ms. Maureen Brooks  
   Tour: Textiles Tour of USDA Research Center (Bus)

3:00  Tours:  
   A. Cabildo and Mardi Gras Museum (On Own)  
   B. Gallier House and Pontalba Apartments (On Own)

7:00  Dinner (Social Event)  
      Plimsoll Club, Top of the International Trade Mart

FRIDAY, OCTOBER 29

8:00 a.m.  Breakfast Meeting  
   Presiding: Dr. Marcia Metcalf  
   Setting the Stage for Research: Dr. Patricia Sailor, Louisiana State University

9:30  Research Reports—Session I  
   A. Presiding: Dr. Audrey Newton  
   B. Presiding: Dr. Lois Dickey  
   C. Presiding: Dr. Martha Jenkins

11:00  Research Reports—Session II  
   D. Presiding: Dr. Audrey Newton  
   E. Presiding: Dr. Lois Dickey  
   F. Presiding: Dr. Martha Jenkins

12:30 p.m.  Luncheon  
   Presiding: Ms. Ardis Rewerts  
   Writing for a Research Journal: Dr. Geitel Winakor, Iowa State University

2:00  General Session  
   Presiding: Ms. Shirley Sanderson  
   History and Tradition of Mardi Gras: Mr. Pie Dufour  
   Consumer Needs Dictate Quality Textile Research: Mr. George Drake, USDA  
   Southern Regional Research Center

SATURDAY, OCTOBER 30

9:00 a.m.  Board Meeting

11:30  Special Event — Riverboat Rides (limit 50)
KEYNOTE ADDRESS*

Robert Tobias Sakowitz
President, Sakowitz, Inc.
Houston, Texas

A statement was made by Robert Sarnoff to the press when he was finally elected president of the RCA Corporation. He said, "It's very simple in a family business. If you're the son, you work like a dog for about twenty-five hours a day and then one day your father takes a liking to you." I think that working like a dog is as good a beginning as any for discussing the subject I was asked to speak on this morning—excellence: excellence in teaching, or excellence in business, or certainly excellence in merchandising.

One of the most important aspects of excellence is the definition of it, because sometimes one man's meat is another's poison. I know that before one graduates from Harvard, Plato's Republic must have been read at least three times, due to the established curriculum. There is a purpose in that—to try and let everyone know that there are men and women of gold, men and women of silver, and men and women of lead (dross, as they were called in the Republic.)

The only problem I felt with this philosophy several years after graduating was that only Harvard would be the one to define what was gold and silver and lead; and, God forbid, perhaps I wasn't the one who was destined to be of gold. It makes a considerable difference.

I think that is one of the things that we lack to a large extent, not only in teaching but also in business. That is, we need a means of establishing goals for the people with whom we work and the people with whom we associate. It is a strong philosophical system when you are working for achievement.

I would like to talk about excellence from three perspectives:

1. Defining and understanding it.

2. Seeking and encouraging excellence from where the state of the art is now.

3. Rewarding and recognizing excellence.

Let us start with the definitions we understand. How many of you feel happier or feel that you prefer to spend your own time personally with people who are at least your intellectual equals? I could have said "monetary equals," and there would have been some people raising their hands, if they were honest. I could have said "social equals," and there would have been some people who would raise their hands, if they were honest. Since this is a group of professors I prefer saying "intellectual equals." That makes you intellectual snobs, rather than money snobs or social snobs; but nonetheless you are snobs.

Everyone is a snob of some sort. It is part of human nature. Consequently part of your

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definition of excellence, because of your respect
of those with whom you would like to associate, is
intellectual prowess. That is part of your
definition of excellence of human beings.

That gives rise in our system to something that is
called elitism. Unfortunately there is confusion
between the disparaging remarks that someone
might make about elitism and the respect that
someone has to have to have leadership for an
elite. We use a lot of phrases today that the media
do a very good job of interpreting, in one way or
another, as they see fit to fit their space. The
problem becomes those (media) prejudices, either
for or against elitism.

If I am here to talk about excellence, I am afraid I
have to hit it home square in the face and talk about
elitism. Basically, elitism is the opposite of the
lack of excellence, which is mediocrity.

One of our major challenges in the next twenty
years—I could say forty or fifty or seventy, but
twenty will do—is mediocrity: mediocrity in
teaching, mediocrity in business, mediocrity in
government, mediocrity in lifestyle. Our challenge
is to preserve that snobbism, whatever it may be,
as long as it is well founded on some degree of
excellence.

Our business is a specialty store business. That
does not mean that we sell “just to rich people.” A
specialty store is a store that sells merchandise,
hopefully of better quality, from moderate to the
top. Basically, it is called a specialty store because
it specializes in something. It is not a department
store because a department store is by definition
all things to all people. When you are specializing
and you choose to select certain merchandise, as a
finer specialty store does, you endeavor to know
that market better than anyone else. You endeavor
to study that market better than anyone else and,
thereby, pass on to your customers a highly edited
package of merchandise that you feel you want to
represent your store and to sell to your customers.
It is not something that is a simple editing process.
We leave 90 percent of what we see around the
world on the table. We buy only about 10 percent,
and even that is probably a high estimate. Nine out
of ten items just do not qualify. They don’t
qualify for reasons of quality in make, or quality
in fit, or quality in design, or value in price. There
are also other considerations such as production
time and seasonability. This, of course, becomes
more treacherous the further you get from the
United States.

How do you teach people to excel? Who teaches
it? We just had a seminar in Houston sponsored by
the Brookings Institute. They brought down
thirty-two people from Washington who were the
number two, three, and four executives in major
governmental, military, and regulatory agencies.
They brought the undersecretaries of agriculture,
the E.E.O.C., the E.P.A., generals from the
army—leaders from a cross-section of agencies. If
you are familiar with Washington, you know these
people basically run the country today. The
Congress and the President of the United States do
not run the country. Agencies run the country.
They are there regardless of those who come and
go every two to four years.

The purpose of the seminar was to familiarize
these people with business. Consequently, they
spent a half day with Tenneco Corporation, a half
day with Brown and Root, a half day with Exxon,
a half day with Gulf, a half day with American
General Insurance Company, and, strangely
enough, a half day with little Sakowitz. I think
one of the reasons why they sent their people to
us for three hours of discussion was because they
wanted to examine retail distribution and the
consumer, and we are the closest to consumers of
any industry. Secondly, Sakowitz as a
company is still privately held. We do not have a
lot of public stockholders with whom the
government fears we are not dealing squarely.
Thirdly, we do not do any business with the
government, other than pay our taxes and fill out
the forms. Consequently, we were free to have a
very valid interchange, which we did. I am not sure
that they liked what they heard, but we did have a
very frank interchange. The reason that I bring this
up is to observe that, after our explaining how we
work in the fashion business, one of the people
asked, “Are you telling me that there is no way
that you can have a formal education to learn
what you do?” I said, “It is a combination of a
formal education and on-the-job training.” You
cannot teach someone to be a fashion buyer in a classroom. You can prepare them. You can give them tools. You can give them facts and ways in which to analyze. You can give them the craft. But you can also learn a great deal about fashion and retailing in liberal arts. Students of retail merchandising should, in fact, take liberal arts courses. We are in the people business. We are in the business of finding out what people will want slightly in advance of when they want whatever it is they want. Not far in advance, or else we have something called markdowns. I probably err on the side of being too early with a fashion or trend more than anything else in my own particular field.

When I was at Harvard, professors would ask, “By going into a business of merchandising or a business of retailing, what are you really doing for mankind?” A hundred years ago I could have said, “We’re giving people protection from the elements.” In fact, however, only 5 percent of the population of the United States today has real problems in getting clothing or buying clothing to protect them from the elements. Almost everyone has clothes. They do not buy clothes for protection now. Forty years ago we probably could have said, “We’re giving people jobs.” At that time that was the major problem, but most people can get jobs now. I know we are talking about a 7 percent unemployment in the United States, but look at how many people are employed and how big the country is. Look at all of the “war baby boom” students you have taught and graduated who have gone into the mainstream and are working, and consider all of the women who were not working before and who are now working. That work force is an appreciable national asset.

The third reason, and today the most important in many respects, is that we give people confidence. Fashion, when it is done right, with a degree of excellence, gives people confidence in their appearance, a confidence which enables them to get up and face a lousy day. When you know you look good, you know you can whip the world. When you know you look bad, it even contributes toward making you feel bad. Remember, when meeting your challenge, whatever it happens to be, how you face other people in your interactions is extremely important. That is what apparel is all about. That is what fashion is all about. We have all seen people who are well attired, well dressed, who have style, have a look, have an air about them. That is one of the major differences in fashion. That is one of those touches of elitism: someone who is more interested versus someone who is less interested in appearance. There is more and more of that today, and not for superficial reasons. There is more of that primarily because more and more people are being educated by schools such as those with which all of you are involved.

Basically, most people are detail blind. They do not know what details are, because they have never been taught to look for them. You can formally teach them that, and it’s important. That is not necessarily on-the-job training. Product knowledge and what makes a fine product; you can teach them that. You can teach them what kind of production hours go into something. They will appreciate and value something when they know what it took to make it.

Last night we had the seventh annual Sakowitz wine auction. We had Michael Broadbent from Christie’s in London. One of the lots to be auctioned was most interesting in that we had two jeroboams of Lafite Rothschild of 1949, a very good year. One of them had the label on it and the other had a slightly damaged label. How many people in this audience think they both went for the same price? They did not. That label is important. Don’t ever kid yourself. It was proven again last night by about a $200 difference. Was the wine any different? Was the capsule any different? Was the color any different? Was the level at the shoulder any different? All of those technicalities meant nothing. But the fact that the label was a little impaired meant a great deal. The label is important. Whose fault is that? Whose fault is it that the audience feels that the label is important, when basically we all know, objectively speaking, that the thing that is important is the intrinsic value.

Why does that label mean so much? For snob appeal? I think that is slightly misunderstood. It is
not for snob appeal alone. That accounts for perhaps 10 percent or 15 percent of the label's worth. That label has come to mean something of quality by its reputation, by its background; it, therefore, has value. That is excellence, and that is what you are searching for—continuity of reputation, continuity of a quality product. That is what people come to expect.

One of the projects on which I was fortunate to work was a study three years ago conducted by the Robinson Associates. It was conducted for the Newspaper Advertising Bureau. It eventually resulted in a report called "The Future of Retailing." Twelve executives of major retail companies around the United States were sequestered in a Tarrytown, New York, conference center. We met at 7:00 p.m. on a Friday to have dinner. We were then told to go up to our rooms, where we would find a thick packet of questions we were to answer in three ways. The whole thing was to be filled out and brought back down at 1:30 or 2:00 a.m. We were to finish such questions as: "The urban crisis in the United States in the inner cities will be solved . . . (a) Yes or no? (b) By what date? (c) What percentage of credibility do you feel that you have in your answer that it will occur by that date?" We all meandered down around 2:15 or 2:30 a.m. to turn in our analyses. At 7:30 a.m. we had breakfast and met at 8:00. All of our answers had been collated overnight into probabilities, with our consensus on each subject. This Delphi method, developed by Rand Institute, and used by Robinson Associates, takes those collective opinions and tests each conclusion. You then talk about how each one affects your business. We broke for lunch and dinner, finished at 1:00 that night, got up at 7:00 a.m. for the same schedule on Sunday, and were finished at 10:30 on Sunday night. The results were a published manuscript.

What they stated is that the future of retailing shows a thrust which is totally different from what has existed in the past. That is, there will be an upward thrust and a downward thrust towards price at the lower level and quality at the upper level. All of those people in between have to make a decision on which way they want to go.

Having worked at Galleries Lafayette in Paris during 1960, I feel that in the past fifteen years, we have seen the Americanization of Europe. Now, however, as far as marketing is concerned, in a mature economy in our country, you are beginning to see the Europeanization of America. This will be shown during the next ten to twenty years. It means that at the top you have a whole series of specialty shops and specialty stores and boutiques. All of you who have been in Europe have seen the fine boutiques. You know that those designer names are associated with the places where you find the better quality merchandise. There are a few better and larger specialty stores, and one or two department stores; but basically the department store is a price-oriented function and a mass-segmentation oriented function. What this study showed was that the department store is right in the middle of a squeeze. The discount store has entered a vacuum of retailing and cut about an eighteen billion dollar chunk from the department store. Now each department store must decide where it belongs in the spectrum, whether it should dip down to meet a price competition head on, or trade up to meet specialty stores and shops.

In a market system that is very much involved with image, because of media registration and advertising and the selling of products (including presidents), that kind of "who are you" identification in imagery is extremely important.

Merchandising is a now business. What is going on now is the fact that we used to have boutiques with name designers primarily from Europe, and now that's not the case. Sakowitz's was one of the first in the United States to capitalize on these names, and that is the reason we think we understand the concept fairly well. We brought in such names as Courreges, St. Laurent, and Cardin. There are thousands of boutiques in Europe that many of you may not know quite so well because they have not been imported into the United States as total boutiques. But the difference is that today you are beginning to see American names such as Anne Klein, with twenty-eight franchises of merchandise ranging from scarves to suitcases, Bill Blass with twenty-three different accounts,
and Calvin Kline with about fifteen. A major American designer today is a major property, the same way it was in Europe and is today. In the future you are going to see those people incorporated into boutiques as well.

What I am leading to is the concept of excellence as associated with brand names. These designer names become what used to be known as the brand names. People do not walk into a specialty store or department store and ask for an Arrow shirt. They ask for a Halston shirt. They do not walk in and ask for a Lady Manhattan; they ask for something Lady Manhattan may be making for a designer name. This has not been perpetrated by the designers. This has happened because of customer acceptance and confidence.

Why has it happened? Two reasons: One, the consumer has lost faith in the American system of distribution. At the same time the consumer has gained the feeling that "Anne Klein (or Halston, or Bill Blass, or Calvin Kline) just wouldn't let me down." There was an article in August Vogue stating just that: the name brand registration and the boutique names of quality are those which people buy with confidence and, therefore, will spend more money to buy. They are willing to spend a higher unit dollar because they hope they are getting something of quality.

Let's talk about that quality. Basically, one of the problems with excellence is the "reachability factor," whether it is possible to achieve the level of quality after seeking it. That goes into my second point—seeking and encouraging excellence from where the state of the art is now.

Although our stores are presently in Houston, we originally started in Galveston. Halfway between Houston and Galveston today is a complex called NASA. It really did not build Houston, contrary to the press. It just sort of helped us along because it helped us get a byline. It helped Houston; but I wonder how many of you have thought of the extent to which it has hurt, as well, the thinking behind excellence and the achievability of anything in our country.

When you spend that many billions of dollars of taxpayers' money on a single project and create a resultant degree of perfection so that we can hit the moon within a pico-second, everybody asks, "Why do my buttons fall off?" If you can reach the moon and hit it within fifteen feet, they say, "How come my zipper breaks?" You have implanted within the consumer a concept of zero defects and a 100 percent reachability, without fully explaining the commitment and cost. Oh, the government told them; but it was at the bottom line somewhere, and it was tax money, which no one really understands. The point is that, in trying to reach excellence, everyone else in a market system has to equate price. The consumer today is not aware of the fact that industry cannot economically reach perfection, and who is telling them anything to the contrary? Are you, as professors, telling them what it costs to make these fabrics? Are you telling them what it costs to construct them, and whether 100 percent is achievable?

I am sure you probably know this, but I just want to repeat it for emphasis. Ninety-five percent reachability takes a certain cost. To go from 95 to 96 percent correctness requires twice as much as it takes to go from zero to ninety-five; from ninety-six to ninety-seven goes to 10x, from ninety-seven to ninety-eight goes to 100x, in geometric progression. From ninety-eight to ninety-nine it goes to 1000x. To go from ninety-nine to 100 percent is equivalent to our national debt.

What does that mean? It means that a business probably has to make that decision between zero and ninety-five, and then between ninety-five and ninety-six, but it still is going to have 4 percent wrong or 3 percent wrong. We do not like it, we do not want it, and we are not happy with it. We do not like to see any customers unhappy, but basically you have to have some degree of mistakes to operate economically. The customer today does not understand that. Worse than that, customers do not give us the time to correct our mistakes. They want us to go to Washington to have Washington correct mistakes. They feel that Washington will be able to stand for them faster. That is something that, in your teaching—and I know you don't teach government classes, but you do teach classes—you have to instill in your classes. The central government simply "ain't
going to get it done any faster.” As a matter of fact, it just increases the cost. It is a fact of economic life that there will be these percentage factors of cost added to our future prices in distribution.

We all have problems in quality control. Quality of excellence which used to be looked at by the manufacturer has now been passed on to the retailer. Instead of checking everything before they ship it, manufacturers now ship to the retailer, ask the retailer to check the merchandise and if there are flaws or mistakes to send it back. That expense gets passed on to the consumer. With after-tax profits of from 2.5 to 5 percent of sales, we cannot absorb that additional expense.

We also cannot catch all the flaws. If we spot check that is one cost, but if we check every piece of merchandise that comes into the store (three to six million units) the cost is prohibitive. It is just not built into our margin of profit. Consequently, it gets passed on from the service center to be spot checked again. So there are three spot checks, but if you are talking about a lot of merchandise you still miss a lot. And as fate would have it, the first one the customer pulls out of the rack is the one with the bust dart incorrectly cut on the bias. At which point we take it and send it back. It becomes a major problem. The customer thinks, “Where is your quality control? Where is your sense of excellence? What has happened to your store?” That is really not our intention.

There is also a quality control problem in paper work; and that is why shrinkage in stores, whether it be from internal or external theft or from mistakes in paper work in EDP, has gone from .5 percent to 2.5 percent nationally. That almost matches a lot of people’s profit margins.

A third problem in quality in the sales approach is that of people really not caring about the way they handle merchandise in selling it. That lack of excellence in caring and selling points out the real need for rewarding or recognizing the people who are genuinely concerned with excellence.

We do a lot of things in our organization, but one of the things we would like for you to teach is the fact that excellence is not just “at the top” but at every position along the way. The organizational charts of most companies look like pyramids. If that is the way you teach your people that companies work—don’t. You should really consider it in a different way entirely. Let me show you what I mean.

\[\text{Organizational Structure}\]

\[\text{president or vice president}\]
\[\text{merchandise manager or store manager}\]
\[\text{department manager}\]
\[\text{sales person}\]

\[\text{Time and Customer Contact}\]

This is the way I would like you to teach people about excellence and about the way a company is run.

First, there is the sales person, the one who is in the closest contact with the consumer at the most urgent point in time. Salespeople have the most urgent sense of immediacy of selling, of showing, of quality control, of examination of merchandise as they show it to a customer, of putting it together properly, of telling the customer how it works and fits, of re-examining the fabric, and of re-examining the labels. They have the most urgent and immediate job.

Next in the store is the department manager. Department managers are basically one dot (see chart) away from immediately selling that customer. They go farther than the sales person in time; although they do get involved with the sales person and the customer through planning, taking mark-downs, receiving, moving merchandise around the floor, and taking care of customer returns, problems and complaints. They go further in time, obviously, trying to plan ahead. Then there is the merchandise manager or a store manager. These individuals are about two dots away (see chart). They are really not selling to the
customer. They cannot be on the floor for that
great sense of immediacy. They have to plan
departmental themes, turnover, finance, clumps of
merchandise, what types of merchandise are
involved, and what types of fabrics will be
preferable this year.

Next is the general merchandise manager, or the
vice president, or president—all the way up.
Those people are that much further detached from
the immediate customer but have to think that far
in advance on store planning, on departmental
re-allocations, on the financing of the next two to
ten years' growth, on dealing with Washington and
agency affairs, and on everything else. But they
can't sell the customers themselves.

I would like for you to tell me and then tell your
students, which is the most important and where is
it the most important to excel? Everywhere! The
president cannot live without the sales people. If
the truth be told, the sales people can live a little
while without the vice presidents, presidents, etc.,
which is why you see presidents fired with great
rapidity. They are the most expendable if they
make mistakes. The sales people are not
expendable. If there is excellence in every position
you have a good organization. If you have
excellence in the sales staff you might still survive.
If you have excellence only at top management,
you are dead. That is the way I would like for you
to educate your students. Tell them how
excellence should be achieved in an organization.
Basically, that is the way it should work. No one
should say, "I'm low man on the totem pole." There is no such thing as low man on the totem pole in retailing, because that is not the way it
works.

Each area has its own reward. Obviously, as far as
we are concerned, incentive is one of the most
important requirements. We have a review system
at Sakowitz. We have something called the quarter
bonus, which means we divide the year up into
center quarters with natural selling peaks and
troughs included in each quarter. Sales people earn
a bonus if they reach their sales goals. We have a
star system, where we have a breakfast with the
president of the company for those people who
were the leading producers, as far as selling, in the
company each quarter. They receive this
recognition as well as badge identification
different from others. That is very important. It
sounds like it is small, but it is not.

We have other things which other companies have—interstore newspapers and all those
things—but basically we are strong believers in
the incentive system, rather than in letting
everything be kept in a norm where it would be
with a sense of mediocrity in everyone's being
treated the same regardless of effort.

The problem, many times, is in establishing who is
responsible for what. Individuals in large
organizations need to have their responsibilities
outlined very clearly. "This will be the definition
of someone who excels (reaching all of the
following), and this is merely the acceptable
level."

In July we had a four-day (Thursday, Friday,
Saturday, and Sunday) seminar for our buyers. It
started at 8:30 each morning and ended at 7:30 at
night. It was quite a series of sessions. We did the
same thing in a series of Sunday meetings with the
department managers from all of our stores. This
included a session on visual presentation, where we
took them through the store and let them judge
their own and other’s departments. By simply
using Mise Van der Rohe's edict that "less is
more," we took them through the store with new
eyes. After we had been with them for five hours
explaining what "less is more" means, we asked
them to go re-do the
whole store. They did
and they had a ball. They loved it, as they had a sense
of accomplishment; and they knew what
excellence was. People came up and said, "I
haven't been doing my job." Can you believe that?
That is understanding better and better what
excellence is and should be. That is what all people
need and want.

In a survey of employees two years ago as to what
is the most important goal you are working for,
money came out fourth or fifth on a chart of one
to ten. "Being in the know" came out first.
"Doing my job right" came out second. They all
feel that if they do their job right, the money will
come. It is the sense of excellence and knowing
what excellence is that you need to teach them. Give them something for which to strive. Call it elitism, if you will; but it is the only way we have achieved anything as a nation, and for ourselves as a company.

“No-fault” may be a great system for insurance, but it is not a good system by which to run a business. I think that Bob Six and his airline (Continental), which happens to be on strike today, has a great phrase about pride. “Pride is an attitude.” Pride is everybody’s job.

If you do not appreciate quality, a fabric, and the way in which something is made, you will not be able to teach it to anyone. If you appreciate it, you can instill pride into people and sense of accomplishment in doing a good job, in learning, and in wanting to learn more. If you will just give them intellectual curiosity and a sense of excellence, then, believe me, business will love you for it.
HOW TO SUCCEED IN TEACHING—BY REALLY TRYING

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I doubt that anyone here would disagree with the notion that we could all improve our instructional effectiveness. However, since teaching is such a complex process, change is not a simple matter. In fact, to some, the process just seems to be too much to deal with. I am reminded of the farmer who told the county agent that he might as well stop sending those newfangled books on farming techniques because he already knew how to farm better than he was farming. Another problem with the area is that many teachers are not using what the research and the literature has to offer. It is as if there were a huge umbrella keeping out anything which might help us improve.

Yet another area of concern is that when information does get through it may be so frustrating that we are left with great doubts on how to deal with the information. Research results reported for similar studies often arrive at contradicting conclusions. If we aren't careful, people become as confused as the governmental employees who read the following edict by the Prague government a few years back must have been:

Because Christmas Eve falls on a Thursday, the day has been designated a Saturday for work purposes. Factories will close all day, with stores open a half day only. Friday, December 25, has been designated a Sunday, with both factories and stores open all day. Monday, December 28, will be a Wednesday for work purposes. Wednesday, December 30, will be a business Friday, Saturday, January 2, will be a Sunday, and Sunday, January 3, will be a Monday.

Bigge and Hunt (1962) in their book, Psychological Foundations of Education, say there are three reasons why teachers do not improve as much as they could.

1. They underestimate the possibility of overcoming obstacles.

2. They underestimate the capacity of their students.

3. They underestimate their own ability to do a better job.

It would certainly seem that the great philosopher, Pogo, was right when he said, "We have met the enemy, and he is us!"

The task is a simple one: as teachers, we desire to do whatever we need to do, to get the students to do whatever they need to do, to learn. But the determination of the desired improvement, the methods to be used to bring about the change, and the procedures to be used to assess that change are anything but simple. When the teacher decides to improve his course and his teaching, where does he begin?

--Should he revise the content? Maybe the basic knowledge necessary for success today
is different from what it was when the course was organized.

—Should he alter his teaching methods? Maybe he should use more labs instead of lectures, better use of objectives, more student involvement, or greater use of audio-visual materials.

—Should he change his presentation style? Maybe he could be more enthusiastic, make more exciting and dynamic presentations, or encourage more questions by the students.

—What about the examinations? Maybe the tests are too factual. Would a combination of test items be better than either objective or subjective items alone? Are there better ways than tests to evaluate progress in this course?

If you consider this broad range of concerns and imagine the effort it would take to improve them all, it is obvious that most of us would simply throw up our hands in horror and say, “It can’t be done. It is just too much!”

The following parable may give us some direction:

Many years ago in a quaint little country there lived a young man like most lads of his time he was poor and uneducated and spent the hours of the days tending his sparse garden and caring for the one gaunt cow that he owned. He was different from the others, though, for he could not bring himself to accept his station in life, but constantly dreamed of what it would be like to be rich and powerful like the wealthy old ruler who lived in the big house high on the hill.

One morning, after a near sleepless night filled with visions of gold and land and fine clothes and ornate carriages drawn by prancing horses, he threw down his crude hoe, drew his tattered cloak about himself, and set forth to find the secret to riches and fame. His path led him unerringly to the Wizard of the Wilderness, who, it was said, could reveal to the pure and earnest seeker the answer to any of life’s mysteries. The lad, his fears and uncertainties overcome by his fierce determination to become rich, boldly approached the ageless wizard and inquired what he must do in order to gain his heart's desire. The old man, after searching the boy’s soul and finding his motives sincere and pure, slowly replied, “My son, in order for you to possess that which you seek, you must eat an elephant.”

“Eat an elephant!” the lad exclaimed. “It’s impossible, I, who have never had a full belly in all my life, could not devour a large hare, much less a huge elephant. It can’t be done. No one could do it.” Thus speaking, he sadly shook his head and slowly began to make his way back to his tiny hut. But on the path, as he contemplated his dismal future of poverty, a thought struck him like a bolt of summer lightning. “What a fool I am,” he thought. “I only asked the wizard what I must do in order to become rich and famous. When he told me that I must eat an elephant, I was so overcome with the enormity of the task that I completely forgot to ask him how this might be done. I must return and ask him how.”

He immediately turned and ran at breakneck speed back to the house of the wizard. As he approached, he saw the old man still standing in the doorway of his hut, gazing down the path as if he were expecting the boy to return. Falling on his knees at the feet of the wise old seer, the lad gasped, “Tell me, kind sir, how I may eat this elephant in order to become rich and famous.”

With a knowing smile and a gleam in his eyes, the wizard answered, “To eat the elephant, you must proceed slowly, one bite at a time.”

Needless to say, the lad joyously followed this advice, and in time became the richest and most famous man in all the land, and upon the death of the ruler was asked to rule over all the land and people. (This parable is quoted from a presentation by Keith Wharton, Coordinator of Educational Development, College of Agriculture, University of Minnesota.)

The message of the parable, I think, has direct application to the improvement of instruction. The immensity of the undertaking and the
complexity of the teaching process are enough to frighten even the most hardy soul—unless we break it down and approach it one “bite” at a time. It was also evident from the parable that the first ingredient necessary for change to occur was the determination on the part of the starving lad to want to change his life. I am convinced this is also true of improving instructional effectiveness and succeeding as a teacher. It begins with an individual teacher who has carefully analyzed his approach to teaching and the academic performance of his students and finds either of these not meeting the standards he thinks are both desirable and possible. It proceeds with commitment to do something to bring about a constructive change.

The research is often confusing on the direction one should take to succeed, yet there are a number of things which might help us make decisions and keep us from making mistakes that others have made before us. There is no right or wrong method of teaching. Dubin and Taveggia, in their book, The Teaching Learning Paradox (1968), summarized forty years of study comparing different college teaching methods in the following two statements: (1) “No particular method of teaching is measurably to be preferred over another when evaluated by student examination performances,” and (2) “Face-to-face with their instructors, or independent of them, college students can pass their course examinations with equal facility and level of performance.” The evidence is clear that teachers can teach and students can learn by a variety of methods or techniques, and there is no one model of teaching which is correct for all teachers to follow. Therefore, to succeed as a teacher we each must select a method and those techniques which we can use effectively and develop these so that we become one of the best at using that method and the techniques that go with it. Milton Hildebrand (1973) said, “Few teachers are great; probably none is great at all times. Yet, many teachers are great occasionally.” What we need is to do everything we can to make these occasional times of greatness occur more often.

Second, we have barely paid lip service to how individual students learn. Some of our recent theories in cognitive thought such as Guilford’s Model of Intellect (Guilford, 1968) indicate that one’s thought processes may be made up of 120 or more separate abilities and that a given individual may possess these many abilities in any strength from minimal to exceptionally strong. Thus, if you can imagine 120 abilities, each potentially ranging on a continuum from little to much, you will see that there would be an infinite number of potential intellectual models and that no two students would have exactly the same intellectual potential or capacity. Theoretically, each learner would need to learn differently if he were to use his total intellect to its fullest capability. No one knows whether Guilford is right or not, but he certainly gives one food for thought. If his concept is exaggerated, the thought process may be much less complicated than he believes; but we do know that the process is not the same for all, even though we act like it in most college classes.

Some research findings which relate to student characteristics and learning styles illustrate some of the problems we could encounter. Some have found that abler students profit more from recitation and less able students profit more from lectures. McKeachie (Estrin and Goode, 1964) and several other researchers have found that bright students tend to do better in small groups and where there is a more permissive attitude. Generally, it has been found that bright students are also more capable of conceptual learning than the less bright. However, naive, bright students may not think well conceptually either.

It also appears that within intellectual ability levels there are great differences, too. Some students are predisposed to learn facts; others seem to naturally be able to apply and synthesize. Miami University found that students vary greatly in the influence of personal contact with the instructor (Klausmeier and Ripple, 1971). Students who have had little previous knowledge in a field seem to profit more from personal contact with the instructor than those who are more knowledgeable in the field. Yet, even here, the type of contact is often more important than the amount. Studies of students who do well in independent study type classes indicate that certain types of students—characterized as independent, flexible,
or high in need for achievement—perform well in classes where there is opportunity to do more self-direction.

Tony Grasha and Sheryl Riechmann at the University of Cincinnati (1972, 1974) identify six different learning styles in students:

1. **Competitive.** This response style is exhibited by students who learn material in order to perform better than others in the class. They feel they must compete with other students in the class for the rewards of the classroom, such as grades or teachers' attention. They view the classroom as a win-lose situation, where they must always win.

   **Classroom Activity Preferences Based on Research Data.**
   - To be a group leader in discussion or when working on projects
   - To ask questions in class
   - To be singled out for doing a particularly good job on a class related activity.
   No real preference for any one classroom method over another (e.g., lectures, seminars, etc.) as long as the method has more of a teacher-centered focus than a student-centered focus.

2. **Collaborative.** This style is typical of students who feel they can learn the most by sharing ideas and talents. They cooperate with teachers and peers and like to work with others. They see the classroom as a place for social interaction as well as content learning.

   **Classroom Activity Preferences Based on Research Data.**
   - Lectures with class discussion in small groups
   - Small seminars
   - Student designed and taught courses and classes
   - Doing group rather than individual projects
   - Peer determined grades
   - Talking about course issues outside of class with other students
   - Instructor-group interaction.

3. **Avoidance.** This response style is typical of students who are not interested in learning course content in the traditional classroom. They do not participate with students and teachers in the classroom. They are uninterested or overwhelmed by what goes on in classes.

   **Classroom Activity Preferences Based on Research Data.**
   - Generally turned off by classroom activities
   - Preferences include no tests, self-evaluation for grading, no required readings or assignments, blanket grades where everyone gets a passing grade
   - Does not like enthusiastic teachers, well organized lectures, instructor-individual interactions.

4. **Participant.** This style is characteristic of students who want to learn course content and like to go to class. They take responsibility for getting the most out of class and participate with others when told to do so. They feel that they should take part in as much of the class related activity as possible and little that is not part of the course outline.

   **Classroom Activity Preferences Based on Research Data.**
   - Lectures with discussion, opportunities to discuss material
   - Likes both objective and essay type tests, class reading assignments
   - Likes enthusiastic presentations of material
   - Prefers teachers who can analyze and synthesize material well.

5. **Dependant.** This style is characteristic of students who show little intellectual curiosity and who learn only what is required. They see teacher and peers as sources of structure and support. They look to authority figures for guidelines and want to be told what to do.
Classroom Activity Preferences Based on Research Data.
- Teacher outlines or notes on the board
- Clear deadlines for assignments
- Teacher-centered classroom methods.

6. Independent. This response style is characteristic of students who like to think for themselves. They prefer to work on their own but will listen to the ideas of others in the classroom. They learn the content they feel is important and are confident in their learning abilities.

Classroom Activity Preferences Based on Research Data.
- Independent study
- Self-paced instruction
- Problems which give the student an opportunity to think for himself
- Projects which the student can design
- Prefers a student-centered classroom setting over a teacher-centered one.

The above would support the idea that there are differences in learning styles and the feeling that we need to provide a variety of learning modes within a given area. We tend to teach everything one way. When we decide to change from the large lecture we tend to change all the students to the new learning style and then are surprised when a certain percentage do not learn well under our new scheme. Why can't we teach the same material two, three, four or even more different ways so that students can learn in whatever is their best style? A word of caution: students often do not know how they would learn best because they have had little experience with other than traditional styles, but in time we will be able to help them decide based on their own personal characteristics and the characteristics of the learning mode.

A third variable deals with the content, skills, or tasks taught, and a fourth variable deals with goals or objectives of the instruction. Our research to date would indicate that these variables are as important as the previous two in deciding how we should teach. One just cannot consider method realistically until he has decided what his primary objectives are and what type of material is to be taught.

Some of the research findings which relate to these areas give us some interesting insights. Although there is considerable evidence that performances on achievement tests at the end of the course are not significantly different for various sized classes, the weight of the evidence clearly favors small classes for longer range retention, critical thinking, and attitude change (Dubin and Taveggia, 1968; Estrin and Goode, 1964; Payne and Spieth, 1935). However, small classes are often not effective because they are taught the same as large classes, and unless one adjusts his teaching style to the size he might just as well teach to large groups.

What about lecturing vs. discussion? The lecture appears to be just as good as discussion for mastery of factual information and is, in fact, more efficient in getting the job done. However, discussion tends to be better for delayed recall, concept application, developing attitudes and the general higher level thought processes (Dubin and Taveggia, 1968, Estrin and Goode, 1964). One of the greatest problems here is that what many people call discussion is no more than a question-answer session or a few students' reacting while most are spectators. Problems such as these lead to ineffective use of the method. Many instructors do not actually know how to use the discussion technique. Also of interest is the fact that evidence to date would indicate that one of the poorest schemes may be the common arrangement of several sections of unwieldy medium-size classes. Some combination of large lectures and small discussions or labs appears to be better. However, there are many problems with these, too.

The research is unclear as to the real merit of student-centered and self-paced learning. Part of the problem lies in the fact that instructors do not have the developed skills for directing student-centered approaches. The instructor cannot abdicate and sit back hoping his class will learn with no direction. Students simply are not prepared to take the total responsibility for their learning, and many students will perhaps never profit optimally from such an approach. Both students and faculty can learn to use the techniques necessary for success with student-centered learning; but this, like all learning styles, is not adaptable to all material, for all objectives, or for all students. The role of the
teacher is completely different from the typical conception we have of the classroom instructor. He becomes the organizer, objective writer, materials expert, technology expert, manager, and guide, rather than the traditional presenter.

Technology has much to offer education when used well and for what it can do best. But again, one should not use media for the sake of using media but should think in terms of the goals intended. If technology is the best way to accomplish one's objectives, it should, by all means, be used; but if lecturing, discussing, or independent study would be as good or better perhaps the expense of using technology could not be justified. The evidence does support the use of media in a vast variety of ways to supplement instructional styles of all types, but when improperly or poorly used it can be worse than no use at all.

The use of laboratories is also questioned by many. The laboratory provides the potential to give the students experiences not otherwise possible in other classroom activities. However, some research at the University of Minnesota has indicated that reducing the amount of laboratory experience may not significantly reduce the amount learned, while in other cases even more lab would be advisable (Payne and Spieth, 1935). Other research has shown that the lab experience contributed only to certain topics associated with lab activities but made no difference in other items. It may be that our expectation—that laboratory experience reinforces classroom learning—is false and, if so, could be a waste of student time. A noted physicist on the Kansas State campus not long ago stated that, in practice, what most lab experiences prove is that students who can read can do lab experiments, not much else could be inferred, he said. Once again, this seems to suggest that we need to look carefully at our objectives to decide just what we intend for the student to gain from the lab.

As mentioned before, there does not appear to be one correct way for an instructor to teach. Teachers play many roles: planner, presenter, coach, catalyst, demonstrator, informer, humanist, model, guide and evaluator. And while being all of these things, the teacher is still expected to be a normal, emotional responsive human being. We begin to wonder just what qualities good teachers could have in common if they truly do so many things and, at the same time, develop their own individual styles.

However, when we ask students to name their "best" teachers and then either to tell why they were best or to rate them, a set of characteristics emerge even though different teachers use extremely varied styles and methods. A review of the studies which have done this reveals a rather clear-cut set of descriptive characteristics which undergraduate students see as their model of the "Ideal Teacher." They are as follows:

1. Simulating Style—
   - Ability to stimulate students to efforts beyond that required in most courses
   - Ability to demonstrate the importance and significance of the subject matter
   - Skill in motivating students to want to learn
   - Being one who works hard himself
   - Being a dynamic communicator and catalyst

2. Ability to Communicate Clearly—
   - Makes the information understandable
   - Makes it clear how topics fit together
   - Makes objectives available and clear
   - Uses good presentation style
   - Gives feedback to help students improve
   - Teaches at the proper level for students

3. Knowledge of Subject Matter—
   - Mastery of the field of study
   - Up-to-date in this knowledge
   - Ability to relate material to real life situations

4. Prepared and Organized—
   - Comes to class ready to deal with the topic
   - Always prepared for this class
   - Creatively ready for what might happen
   - Has foresight and hindsight
5. Has Enthusiasm—
- Shows his/her own interest in the subject matter and the teaching situation
- Makes his own enthusiasm contagious for students
- Makes the study enjoyable
- Develops greater interest in the field of study
- Does not underestimate the power to influence others

6. Takes a Personal Interest in Students—
- Helps students answer their own questions
- Explains criticisms
- Takes time to help
- Makes students feel important
- Understands learner differences
- Looks at students as individuals

7. Shows Flexibility—
- Changes approach to meet new situations
- Able to shift gears in midstream
- Able to work with different students and/or different classes differently
- Willing to try new ideas
- Able to see the serious side but also to see the humor in situations

8. Has Sound Character—
- Uses fairness in grading and provides opportunities for all
- Has integrity and honesty
- Is dependable
- Exhibits sincerity
- Has patience

9. Demonstrates commitment and a sincere desire to be a teacher—
- Has a liking for students and the desire to help students learn
- Continues to learn and improve
- Has a willingness to give of himself/herself
- Has a willingness to accept restrictions and hard work to do his best

The pattern of characteristics that emerges is that students do not want just a warm, friendly entertainer as a teacher. They definitely want to learn and expect a “good” teacher to be knowledgeable, a good communicator, well prepared, organized, flexible, and enthusiastic about both the subject and teaching.

The final suggestions I would have on “how to succeed in teaching” are to solicit critical appraisal of your teaching and then use this information to make adjustments in your teaching methods and techniques. Your students can give you a great deal of feedback which will help you see just how well you have been coming through to them. We find that students are generally pretty honest in their appraisals. We also realize that the student can judge only certain aspects of the teaching-learning situation. Students can judge our enthusiasm, how well prepared and organized we appear, how exciting or boring our presentations come through, how flexible we are or how clearly we communicate; but they cannot know how up-to-date we really are in our field, what kind of contributions we make to the curriculum of the department, or how much we enhance the discipline with our overall activities. These latter aspects must be judged by our peers or our superiors within the department. We should not forget the possibility of self-evaluation through video-tape, audio-tape, and simply being alert to our own strengths and shortcomings. Our research at Kansas State University makes it clear that faculty who consistently assess their own progress through student evaluations do improve their teaching skills; and, furthermore, there appears to be a direct relationship between improvement and the amount of effort shown by faculty to improve. Those who have the honest motivation to succeed and are willing to zero in on activities where the greatest need exists change the most.

I am convinced that you can succeed in teaching—by really trying the following:

--- Accept the fact that there is no one correct way to teach.

--- Approach the problem of change by taking one step at a time.

--- Don’t underestimate yourself, your students, or your ability to overcome obstacles.
Remember that effective instruction is influenced by teacher characteristics, student characteristics, content, and outcomes expected.

Use what the research has to suggest.

Be mindful of what students say are the characteristics of "good" teachers.

Use every source at your disposal to help yourself improve.

Finally—and most important of all—get completely committed and determined to become the best teacher you can possibly be.

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FUNCTIONAL CLOTHING:
NEW DIRECTIONS FOR TEXTILES AND CLOTHING*

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I'd like to talk with you today about the process of change. All across the country, home economics programs are changing, reorganizing, and expanding. As professionals in textiles and clothing, we must search for ways to deal with this change and to grow with it. I'm going to talk about our experience with program change and how it affected our students and faculty.

Six years ago, the College of Home Economics at Cornell went through the process of reorganization. The reorganization resulted in a name change, a reordering of priorities, and the challenge to devote our efforts to the solving of human problems. The new college would focus on the total development of the individual in the family, home, and community. It was to relate what we were learning about human welfare to contemporary societal conditions. It would be a College of Human Ecology.

Many of you have been through the process of change within an organization and are familiar with the kind of insecurities which arise in this process. In the textiles and clothing area, we faced the loss of our separate identity. There would be no department of textiles and clothing in the new college. Instead, we were incorporated with housing and interior designers, household equipment specialists, and selected social scientists into a new Department of Design and Environmental Analysis. Our program would have to fit into the new department framework. We would need to learn to communicate with designers and social scientists and to build an interdisciplinary program with them. We worried about how this would affect the textiles and clothing area. Would we lose our identity with others in our field outside of Cornell? Would students who wanted to study clothing and textiles know they could still do so at Cornell?

Our department was divided into three major areas: design, materials (textiles), and human and social factors. The clothing specialists would become part of the design major, in an apparel design option. Apparel design was a shift in emphasis for us. The majority of our students had generally gone into retailing, not into designing. Those of us in the clothing area went through a real identity crisis. Could we put together a good apparel design program? What would its focus be? We wanted to have a program that we could firmly believe in—one which utilized our capabilities to the fullest. At the same time we wanted to be on the offensive, accomplishing positive things within the new focus. Unless we established a unique program which looked to the future, we felt we

*Due to the highly visual nature of this presentation, slight changes have been made to adapt it to the format of the Proceedings.
would constantly be defending our relationship to human ecology. The direction we took led to the development of a program which centers around functional design.

Functional Clothing—What Is It?

It is difficult to define the term “functional clothing” because most clothing is functional to some extent, whether to meet a physical or a psychological need. In concentrating on the functional qualities of clothing, we wanted to focus on protection and safety—on clothing as it affects health or as it increases efficiency on the job. We did not want to look at function as opposed to fashion. We could not possibly exclude aesthetics. What we wanted to do was build into the program of a design-oriented, fashion-conscious student a sensitivity to functional problems.

Our new program began with the introduction of a course devoted to the investigation of functional clothing. As this course developed, we became aware of a number of exciting ways we could utilize our clothing background. One of the things that happened was that we were forced to adopt a wider definition of clothing itself. We were used to dealing with fashion. We suddenly began to see all kinds of relationships between clothing and other products which were attached to the body. If the fashion designer could develop a cowl-hooded sweater, why couldn’t she be involved in the development of a fabric hood connecting the helmet to a space suit? If she could design a pocketbook on a belt, why not a belted carrier for equipment? If she could design a girdle, control-top pantyhose and other supports to change the shape of our figures, why not a support for an injured body part? By expanding our definition of what we considered to be clothing, we opened up exciting new design challenges which began to permeate all of our courses. We began to see clothing in relationship to other products. We could see that clothing was an environment—in a sense, an interior even closer to us than the walls of a room—to which we related. In this way we also began to build linkages between our work and that of the other designers in our department.

Another important change was the shift to a client orientation. Functional clothing forced us to look beyond the classroom. It gave us an opportunity to carry an already strong problem-solving orientation even further. One by one, our courses began to drop final projects which involved clothing designed for the student herself. Students were asked to solve clothing problems for individuals and groups in the community. They learned to deal first hand with figures other than the typical college-age figure—with clothing in new working and living conditions, with client-versus-designer preferences. They learned to communicate with other professionals and to work in teams to solve problems. Perhaps a closer look at our course sequence will show how our students experience this orientation to clothing.

The Apparel Design Program

Students in apparel design take basic courses in each of the three major areas within the department. They take a strong program in basic design including figure drawing. They, naturally, take several courses in textiles. They also have at least the introductory course in the human and social factors area. I’ll be talking primarily about the first courses in the apparel design sequence, although we do have a number of others which support this sequence, such as history of costume and drawing the clothed figure.

We also have a non-credit workshop in clothing construction which students may take before they begin our courses. We found that most of our entering freshmen came to the program because they had enjoyed sewing, and the one or two students per semester who wanted to learn to sew were holding back the majority. This sewing course is autotutorial and voluntary. It consists of audio and video tapes with construction samples. A student may take it before our beginning course; or if she knows how to sew but isn’t sure, for example, how to set in a sleeve, she may work with an audio tape and samples for that lesson alone without enrolling in the workshop.

Our beginning course focuses on three areas: beginning flat pattern, fitting, and intermediate clothing construction. Since our program
emphasizes design, our students learn to work with a sloper and design their own garments from the very beginning. There is a lot of sample work done in this course, and students keep a notebook of design ideas which feed into their design development. Many ideas are gathered from an exposure to historic costume.

Until last year, this course was the only one in our sequence in which students made garments for themselves. This was partly because of the size of the class—making gathering of clients a tremendous task—and partly because we didn't want to turn beginners loose on the community! This past year, the instructor for the course decided on a very interesting client-centered approach. For the final project, the class was divided into groups of three, and each girl designed and constructed a garment for one of the others in her group. This project helped students to see some of the difficulties inherent in client-designer relationships. Although many students seemed disappointed when the project was announced and often frustrated during the project, they were elated and very proud at the end. The instructor found she had greatly increased voluntary lab attendance, making for better fitting and better construction than she had seen in previous semesters. I attended the review, and what struck me was that there were no bad projects. In a beginning course, every semester, there are always two or three who turn in disappointing projects; but this work for a "client" forced a more professional product for all students. I also noted a real camaraderie among the students. They knew something about each other and were quick to point out good features and encourage each other about their work. I think the things that I've pointed out about this project hold true for client-oriented and team developed projects in all of our courses.

Our second apparel design course focuses on applying basic design concepts to clothing. There is work on color theory and form study. Much attention is paid to surface interest and decorative detail, these being applied in many cases to accessories. The instructor who had been teaching this course has been working in the area of gerontology, and the final project for this course often involves clothing for a wheelchair patient. Because the visual aspects of clothing the seated figure are so different from clothing the upright form, this project is a good application of design concepts. In addition, it serves as a beginning contact with an outside client, and as an introduction to a functional clothing problem. Students, in teams of three or four, work with one of the local nursing homes and talk with both staff and patients in making their design decisions. Their projects show concern for the comfort of the patient in the seated position, the independence of the patient with regard to the dressing operation, the ease of care and time involved in the dressing operation by the nursing staff, the problem of incontinence, and the individual preferences of the patients.

Our third course covers advanced flat pattern design and beginning draping. The objective is to help students to interrelate these two techniques. We wanted to teach the two methods in the same course, so that students could learn not to use one or the other but to choose the appropriate technique to accomplish a particular portion to a design.

One of the problems in this course was to design rain gear for travel. The object was to meet varied protective needs and to conserve space for packing. In this problem, students also learned to look at garment parts and recognize their potential for multiple uses.

Final projects for the course are generally independent studies. Students at this point have had one course in human and social factors and are asked to use some of the techniques learned there to gather information about a client's physical and psychological needs. Students have designed such items as a vest for photographers, a hooded raincoat with integrated backpack cover for hiking, a child's reversible jumper with animal figures which the child creates in the dressing process, modern dance garments with variable fitting and aesthetic features, and fashionable yet functional garments for women cyclists. All of these students have talked with manufacturers about their designs, and many have expressed interest in manufacturing them. We have begun to
emphasize, especially in our upper level courses, the communication of design ideas to the general public—either through contact with manufacturers or through a variety of publications which reach the consumer.

Our fourth course is entitled "The Theory of Functional Clothing." This is my course, and in it I cover thermal protection (how clothing warms or cools the body), impact protection (as it relates to industrial and sports protective equipment) and mobility (how garments can free or intentionally restrict the body). There is a strong emphasis on materials, so that this course serves as a link between textiles and apparel design. We cover a number of additional topics depending on student interest. We've looked at clothing for firefighters, scuba divers, athletes in contact sports, handicapped children, etc., all within the context of how materials and garment shapes interact with people and their surrounding environmental conditions.

One student project a few years ago involved a female cinematographer who was rather slight in build yet had to carry the full weight of a heavy camera and battery pack system on one shoulder. She asked if the class could design a unit which would place the support of the battery pack on a different body area. The students developed systems which redistributed the weight while still allowing mobility and ease of operation of the unit.

Another project was done in cooperation with an orthopedic surgeon who specialized in sports medicine. We worked to design a knee brace for a pro basketball player who suffered from recurrent dislocation of the kneecap. Students struggled with the problems of making the supports protect the kneecap while allowing the player full leg movement. They tried to make them comfortable yet supportive. We worked with local college players who suffered similar problems to get immediate feedback on the success of the designs. We hope these designs will someday meet the needs of the general public, not just athletes.

Last semester several students from this class were involved in an extremely exciting project on mine safety. Each year, Armco Steel Corporation sponsors a Student Design Program in which students from four different universities work on a common topic. Last year's topic being coal mining, the program is not a competition; rather, it is a chance for students to work constructively on a topic which focuses on human needs. Armco gives full financial support to the students in the development of their designs. This is important because it allows the students to work in final materials and to work out complex ideas in full scale. The program ends with a critique session during which students present their work to experts from industry, government, and academia. Apparel design students from my course worked with product designers in our department to develop a total protective system for the miner—clothing, a helmet, and a self-rescuing apparatus. This was an invaluable learning experience for the students. They worked on a real problem. They had the experience of integrating their apparel designs with the hard goods which the product designers were producing. The critique session provided expert feedback which we could not possibly duplicate on the campus. One very pleasant part of this experience was the $1,000 grant which was given to each of the schools at the end of the program. I've been using my portion of the grant to bring people from functional clothing professions to Cornell to add further impetus to our program.

I've talked with you about our program—what we're teaching. Now I thought you might want to hear about what students are doing once they leave Cornell.

One of the nicest things about the holiday season is receiving mail from former students. This past Christmas I suddenly realized what a tremendous difference there was in the way the students wrote about themselves and their work. Several students wrote to say they had gone on for more schooling. One is now in law school, hoping to specialize in consumer law. Another was accepted in an occupational therapy graduate program at New York University. She had been doing freelance work in designing clothing for the handicapped while holding a fashion-related job. Once she has a more complete understanding of the therapy
process, I hope she can work with the medical profession and be able to show them what an important contribution clothing can make to the rehabilitation process. I’m sure she can help patients immensely right now to adapt their clothing to meet their needs.

Many of our students still enter retailing positions. My feeling is that they do so with a new perspective. Those who eventually are in buying positions know how to make judgments about an increased range of garment features. They’re more aware of special clothing problems. Former students have written to me about work in children’s wear or women’s half-size dresses. They are dealing knowledgeably with skiwear, sporting goods, backpacking garments, swimwear, and tennis wear. Hopefully, they will soon be in positions where they can stock and promote garments which are functionally in the best interests of their customers.

We are placing more students in design positions. Functional design jobs have been difficult for women with our background to secure. However, once we have our foot in the door, I’m convinced that industry will see the special contributions we can make. One of our graduates accepted a job with a sporting goods manufacturer. She was their first female employee at the professional level and was hired with the title of design engineer. She was active in sports herself, and the firm hoped that she would be able to develop a line of women’s sports equipment for them. At the time she accepted the job, she received the highest starting salary ever paid to a graduate of our college. This is not an area which is lacking in funds.

One of the first graduates we placed in a functional design position was also the only female professional in her company. Shortly after she was hired, I spoke to her supervisor who simply did not know what to do with this female clothing specialist which his firm had placed in his department. Within a matter of months she became invaluable in the firm. She worked first on the development of a cool suit—a vest and hood fitted with tubing which circulated cool water next to the body. This was an item adapted from the space industry for workers in high temperature environments. Next, she worked on the development of an orthosis—a pneumatically inflated support device for paraplegics. She made contributions from a perspective which the engineers did not have. She worked on garment shapes which provided or restricted movement, fitting techniques, fastening systems, and self-dressing techniques. Her work with the medical profession on the training of physicians in the use of the orthosis led to a number of invaluable contacts. She received a number of job offers, among them one from a firm which was working on the development of a new type of artificial breast for post-mastectomy patients.

I’d like to close by reading you portions of two letters I received from students this last year. The first is from the student I just mentioned. She has recently changed jobs and is now an aviation survival equipment technologist for the Navy.

Right now I’m getting involved in some coordinating efforts with the Air Force and Army on an item called the g-suit. It’s basically a pressure suit of sorts worn by pilots to counteract the effects of high acceleration. I’ve been assigned as a technical representative of the Navy to work with the other services in developing a single item for use by all of us. I spent 3 days in San Antonio at the end of January trying to lay some of the ground work and it looks like it will be an interesting and successful program. The chance for personal contact is really great.

Also, I’ve been working with a co-worker on the development of liquid cooling/heating garment. There are several designs already around including the one used by NASA in the space program but we’re trying to reduce the cost to a practical level for use by the military in general. One very interesting aspect is some fabric development we’re doing. The attempt is to produce Nomex fabric with tubing woven directly into it. This would cut the cost considerably since at present the tubing network of the garment has to be attached manually and it’s quite time consuming. We’re really excited about the possibilities right now.
The second letter is from a former student who is working at ILC Industries, a private industrial concern which handles much of the contract work for NASA and produces a variety of types of protective clothing.

One of my major responsibilities has been the design of an emergency garment for airline flight attendants. The assembly must be suited for routine use without recognition of its special function yet convert to provide complete protection from fire and toxic fumes in the event of a crash. The complex design criteria have made it one of the most challenging projects but also one of the most fascinating.

I have also been patterning for a disposable chemical barrier heat-sealed suit which requires a functional approach without aesthetic considerations. It utilizes a breathing assembly and provides a safe environment for dismantling devices similar to nerve gas bombs.

My present activities have been associated with the Shuttle Program. I am developing the outer Thermal Micrometeoroid garment for a space suit designed as part of our proposal to NASA. The entire company has been working frantically to meet the deadline, optimistic that we will be awarded the contract.

Letters like these two indicate how much we've changed in the past six years. We thought, six years ago, that we might be losing all that we had built into a strong textiles and clothing program. Instead, the reorganization and a focus on functional clothing have been the beginning of a new phase of growth for us.
I'm going to take the prerogative of changing the title of my talk just a little bit. The original title was "Textiles, International Trade, and New Orleans." I'd like to change that to "Textiles, International Trade, Cotton, and New Orleans." The reason for that is very obvious. When I got into doing my homework for this presentation, it became apparent to me that if you're going to talk about New Orleans and international trade and textiles, you're going to talk about cotton. There's no other way to do it if it is going to be reasonably meaningful.

The story of American fabrics is really a mirror of world changes. I'm sure I don't have to tell you this. Even more so, the story of fabrics is a mirror of world changes. Vasco de Gama opened, in about 1497, the water route to India in order to secure the cotton trade for his emperor. Britain, in the eighteenth century, with the aid of a half dozen or so investors and mechanics, wrested the cotton empire from the East within a single generation. This was the so-called "Industrial Revolution." People like Crompton, Cartwright, and Hargreave, with steam and water power, developed the factory system which made it possible to produce cotton cloth in enormous quantities.

However, it took one Yankee invention, the cotton engine, or gin, to shift a large part of the world's cotton cultivation to North America and, specifically, to the South. Cotton growing in the South, and textile weaving in the early years in the Northern states, where water power was available, formed the pattern of early agriculture and industrialization on a mass scale in this country. The ascendency of the Southern plantation and the re-invigorization of the then-dying institution of slavery were made possible, in fact, by Whitney's cotton engine. We'll see why this was the case in a minute or two.

Let's look a little bit at Mr. Whitney. Being, myself, interested in entrepreneurship, I find Whitney to be a very fascinating man. On June 20, 1793, Whitney wrote a letter of patent application to the honorable Thomas Jefferson, who at that time was Secretary of State, enclosing a fee of thirty dollars. Whitney felt with some degree of confidence that he would make "a fortune by it." As he wrote to his father, "I am now so sure of success that ten thousand dollars would not tempt me to give up my right and relinquish the object." Ten thousand dollars to us today doesn't sound like a lot of money, but in that time it was a tremendous amount of money. The Massachusetts-born Yankee (Whitney) had attended Yale, where, if I'm not mistaken, his total bill for four years was not in excess of a thousand dollars. That puts it into some perspective for you. That included everything—tuition, books, board, the whole shooting match.

Whitney had a rather penurious existence at Yale, and when he graduated he took an unusual job. What he did was sign on as tutor for the children of a Major Dupont, who lived, at that time, in South Carolina. In coming down to South Carolina, he rode a schooner and met the widow of a very important Revolutionary War hero, General Nathanael Greene.
The Widow Greene and Mr. Whitney struck up an acquaintanceship, and she invited him to Mulberry Grove, her plantation near Savannah. Mulberry Grove, by the way, was a plantation that had been “liberated” from the English and given to General Greene by the State of Georgia for his services in the Revolutionary War.

At that time the country was in a slight recession. As we all know, wars bring prosperity. But it is almost invariable that following his prosperity, you get a depressionary cycle. The South, particularly, was in a depression at the time. The main customers for tobacco, the British, weren’t buying any U.S. tobacco at that time. The Southerners were in bad shape, and they sat around in the evening talking about what might be done.

One of the things that kept coming up was the fact that they had the so-called “sea island” cotton down in this region. It is, as you know, a long staple cotton. Very beautiful material can be made from it. But it had a serious problem in that it could only be grown in the area of the Sea Islands, the small area around Savannah and the coastal areas of Georgia and South Carolina. The inland cotton, which is called “black-seeded” cotton or “short stable” cotton, was extremely difficult to comb. It took literally hours and hours for people to sit down and pull the seeds out of it. So they dreamt, at that time, of how wonderful it would be if they had a machine to do this.

Whitney, being a very inventive young man and having a lot of mechanical ability, in fact devised the engine to do just this job (remove seeds). In doing so, obviously, he opened up a new industry. Actually, he changed the course of history for not only the United States but the world.

Whitney had met a man named Phineas Miller at Mulberry Grove. (Incidentally, just as a footnote, the name Mulberry Grove comes, I suspect, from that fact that we at one time tried sericulture here in the U.S. I’m not sure how else they could get a name like that in that area.) Phineas Miller was the business agent, the executor, of General Greene’s estate. He later, by the way, went on to wed the Widow Greene.

Phineas Miller and Whitney formed a partnership. Whitney was then supplied with a sufficient amount of money to establish a gin machine or cotton engine machine factory, not in South Carolina but in what he thought was God’s Country—New Haven, Connecticut.

They decided not to sell these gins. Like so many entrepreneurs, they figured that they could make much more from them. Instead of selling them, they could do something else with them. What they decided to do was set up ginning establishments. Miller toured the country looking for suitable sites. He wrote Whitney:

The people of the country are running mad for them. When the present crop has been harvested, they [the crops] will be a real property of at least 50,000 dollars lying useless unless we can enable the holders to bring it to market.

Of course, their gin was going to do this.

News of the coming of the gin spread very rapidly. It stimulated, in an extremely sharp fashion, cotton growing. Suddenly again, people saw the difference in getting wealthy and “getting rich.” Estimates are that in 1793 two to three million pounds of upland cotton were gathered in the Piedmont area.

According to the notice that their firm sent out, Whitney and Miller proposed the following:

Cotton Gin: The subscribers will engage to gin in a manner equal to picking by hand any quantity of green seed cotton (this is upland variety) on the following terms. For every five pounds delivered in the seed, we will return one pound of cleaned cotton fitted for the market. For the encouragement of the planters we will also mention that ginning machines to clean green seed cotton on the above terms will actually be erected in different parts of the country before the harvesting of the ensuing crop.

Signed

Phineas Miller
Mulberry Grove near Savannah
Now farmers may be dumb, but they're not that dumb. One for five didn't sound too good to them. But by 1797, there were thirty Miller and Whitney gins operating in Georgia. However, the rebellion started even before that. Many of these farmers believed that fortunes awaited. They weren't about to be hampered by the niceties of the law which sanctioned a monopoly. As far as they were concerned, that is what a patent law was. It was just a legally sanctioned monopoly. That makes me think of a saying we have in Mexico, "Las leyes son para los pendejos." Those of you who speak Spanish will realize that that is a little vulgar in Mexican Spanish but that you can translate it to mean, "The law is for the damned fools." These farmers also felt that the law was for the damned fools, so they didn't pay any attention to it. It was ignored regularly on a wholesale basis.

Whitney, being a law-abiding citizen, sued. This was vexatious to him because he had to leave Connecticut to appear at these trials. Most of the trials took place in Georgia. He had a very effective method of arguing his case. He brought with him a little cotton gin—a model of a gin. He'd wrap it up in a silk cloth, bring it out at the appropriate time, and show the judge exactly how it worked. Usually the judge (at least in the beginning) would find for him.

However, the gin is a very simple machine to reproduce. Soon there were ten times more bootleg gins operating than patented gins. Gin makers sprang up all over the South. Thus, in 1830, a certain William Martin advertised in the Huntsville, Alabama, Democrat:

The subscriber avails himself of this opportunity to say to the public that he has established himself as a gin maker at Nubbin Ridge. Gins of every description [that] may be required can be had on terms to suit purchaser.

Poor Whitney! Long before 1830 (as a matter of fact, in 1803), he had written to a friend of his—Judge Josiah Stebbins. I can only assume that the judge was a respected Northern judge because I don't think he would have written this letter to a Southerner. He wrote:

I have a set of the most depraved villains to combat. And I might almost as well go to hell in the search of happiness as to apply to a Georgia court of justice.

Things haven't changed too much. Those of you who have gone into a Louisiana court of justice or tried fighting city hall here in the South know some of the frustrations that Mr. Whitney was facing at that point in time.

On another occasion, the disappointed inventor discussed his troubles in a letter to another chest-fallen inventor, Robert Fulton. He wrote to him:

The difficulties which I have had to contend with have originated principally in the want of the disposition of mankind to do justice. My invention was new and distinct. I have always maintained that I should have had no difficulty in causing my rights to be respected if it [the invention] had been less valuable and used by only a small portion of the community.

As a matter of fact, his invention was much too valuable. It changed the face of the South. Reading Whitney's comment to Fulton made me think of a friend of mine who is a lawyer in San Francisco. Dick is a Harvard product, and he has told me that in his first year at law school he'd gone through a particular case which led him to exclaim to the law professor, "But that's not fair! There's just no equity in that!" The law professor turned to him and said, "Young man, if you want fairness and equity, you go down the street one block. That's the Harvard Divinity School. If you want justice, stick where you are." (Some of my best friends are lawyers. I hope none of you out in the audience are lawyers.)

Prior to the gin plantation and the gin engine, the plantation owners were actively discussing doing away with slaves. The French traveler Chastellux wrote, "They, the slave owners, are constantly talking about abolishing slavery and of continuing some other means of cultivating their estates." I think, if I recall correctly, General Washington at this same period in history also expressed some doubts as to the continued economic viability of slavery.
The tobacco market was very bad in those days. Slaves were valuable and expensive commodities. The planters just couldn’t see how the economy of this could go on. But, of course, the gin changed that. The gin made possible the continuance of the institution of slavery.

As just a quick footnote here, let me add, as I’m sure some of you know, that Whitney didn’t really suffer all that much. He went on and did something else that had a great deal of importance to mankind for a number of reasons. In 1798 he got a contract from the federal government to manufacture and deliver, within two years, ten thousand muskets. If you consider that at that time the Springfield Armory was furnishing about two hundred and fifty muskets a year, you can see what a challenge this was. Ten thousand when the best federal armory in the United States was turning out two hundred and fifty! And this contract was to be filled in a two-year period.

What did he do? Well, he came up with a notion of interchangeable parts. He was the first and is responsible for the thing that has made in the U.S.—and indeed in the world—the system of mass production. In doing so he invented the kingpin of the machine tools, the milling machine. The milling machine is a device which makes possible the exact duplication of metal parts according to a given pattern.

So Whitney did quite well in spite of all his troubles. He didn’t die in the poorhouse. Far from it! That is another story to be left for some other time.

Cotton that was produced in the U.S. was sold to England. England, then as now, was weaver to the world—although we now take a pretty big piece of that action also. The industrial revolution of cotton (the factory system) increased the demand for U.S. cotton. France, Holland, Spain, Genoa, Naples, and other Italian states also provided cotton. Cotton began to displace wool as Britain’s principal manufacture. The manufacturers in England were fearful that their raw material demands would outstrip supply.

Their supply at that time was principally furnished by the Levant and by the West Indies. So they (Britain) urged the East India Company to expand Indian cotton cultivation. You might note that between 1780 and 1800 the British increased their cotton imports tenfold.

But before the East India project really got off the ground, help came from an unexpected quarter—her majesty’s former colonies, now called the United States of America. As the U.S. grew to be the greatest producer of raw cotton, her exports, in large measure, displaced other cotton in the British market. The U.S. became an unfailing source of supply to British manufacturers, however large their demands.

Let us look back again. Let us see what really happened as a result of the invention of the gin engine. The Plantation system, which was in dire straits, was reinvigorated. The institution of slavery, which was probably on its way out, was suddenly made extremely viable. All the things that went with these two, with the plantation system and with the institution of slavery, were retained. From a historical standpoint you can see the import of this.
Why did this happen? Well, let me look at it in a fashion that maybe is a little different from the way you would look at it. Let me look at it as a resource economist. I hope this doesn't get too far out.

Fibers, as I see them, fall into two main classes—natural and manmade. Natural fibers can be further classified into two broad classes—vegetable fibers and animal fibers. Vegetable fibers, then, could be further subdivided into such things as seed, bast, leaf, fruit, husk, and whole parts of the plant: the seed fibers being cotton and kapok; bast being such things as jute, flax, hemp, ramie, sunn, meshta, and urena; the leaf being abaca, sisal, henequen, istle, cantala, goroa, and so on; husk being coir; and whole parts of the plant including rattan, Spanish moss, are others.

Animal fibers, on the other hand, include wools and hair (sheep's wool and the hair of camel), alpaca, llama, vicuña, goat, rabbit, horse, cattle, and so on. And, finally, there are excretion fibers—that is, silk.

Among the synthetic fibers we have three main groups—(1) the so-called regenerated natural polymers subdivided into fibers with carbohydrate base and fibers with a protein base, (2) the mineral base fibers such as glass, aluminium, steel, and so on, and (3) the synthesized polymers such as nylon, vinyon, saran, and so on.

Why this abstruse discussion? It really is quite important for the cotton story. If you look at fibers and at this classification, as an economist, you very quickly see that, throughout the world, vegetable fibers require labor. In fact, they require a great deal of it. Cotton, with an almost insatiable demand, particularly in the nineteenth century, required a fantastic amount of labor for cultivation of the young plant, for so-called "chopping," and especially for picking. All of the best fibers are also labor intensive, especially in the processing of the fibers prior to weaving. So are the leaf and the husk fibers. In short, we could almost go so far as to call vegetable fibers "labor fibers," suggesting that labor constituted the chief bottleneck to expansion of an adequate supply of cotton. That is, labor is the "sine qua non" for successful production.

Animal fibers, while not too different, are not quite as clear-cut. The most important animal fiber is wool. Wool requires sheep. Sheep require large stretches of cheap land or range. So we might call wool a "land fiber." The term also fits, to varying degrees, other animal fibers—with the exception of silk.

Artificial or manmade fibers are primarily "capital fibers." That is, they rest on capital in the form of scientific knowledge and know-how of the technological variety, machines, laboratory equipment, and money to some extent. We might again refer to these fibers as the capital fibers. Thus, we see the definite economic implications which this taxonomy suggests. The taxonomy suggests to us which of the three productive agents—land, labor, or capital—is most vital in the production of these fibers.

Wherever cotton is produced exclusive of modern technology (which we'll speak of later), you will find lots and lots of labor: hence, "King Cotton" in the South. However, the institution of slavery did not provide cheap labor. Labor under the slavery system was quite expensive, as a matter of fact. Slavery provided abundant and workable labor. I'm not sure that it was willing labor, but it certainly was abundant and workable. Slaveowners could work their people. As an aside I might point out that the South also had a vast expanse of arable land—the Mississippi Delta.

However, production alone is not sufficient. You can produce, but you've got to do something else; you've got to market what you produce. To market it, you've got to sell it. A lot of farmers find out to their dismay: "If wishes were horses, beggars would ride." Unless they can sell their product, they don't make any money.

The marketing process is not the farmer's bag, so typically we have developed intermediaries. The intermediaries that developed in the cotton trade were the so-called "factors." This was a British institution. As early as 1802, a visitor from Europe in writing of his travels to the west of the Allegheny Mountains commented while in Nashville:
There are very few cultivators who take upon themselves to export the produce of their labor consisting chiefly of cotton. The major part of them sell it to the tradespeople of Nashville who send it by river to New Orleans, where it is expedited to New York and Philadelphia or exported direct to Europe.

The agents or factors in New Orleans either sold the merchandise after deducting a commission for their services and remitting the proceeds to the merchant or purchased goods for them in the New Orleans market and shipped them to the merchant. Some of the old-line merchant houses or stores that are still with us today had this beginning.

During a visit to New Orleans in 1806, a certain Thomas Ashe found that the most important men in commerce were the commission merchants to whom the settlers of the upper and adjacent countries consigned their produce. (I had to think about that. Adjacent countries? Yes, of course, Texas was Mexico in 1806.) The merchants charged a commission for their services, wharfage, and labor. Merchants did very well in New Orleans.

Factors in such places as the ports of Mobile, New Orleans, and Savannah enhanced their position by having business connections with firms in faraway places in the interior. Partnerships commonly linked coastal houses with little towns in the interior. For example, Lee Maddux and Company in New Orleans announced in August of 1836 that Brandon Merrill of Tuscambia, Alabama, had been taken in as a partner. They would henceforth conduct business in Alabama under the name of Merrill, Maddux and Company. In 1860, a group of New Orleans firms advertised that they had partners in such unknown places as Indianola, Texas, Attalaville and Yazoo, Mississippi, and the larger interior markets such as Montgomery, Louisville, and St. Louis.

As a little aside, I was reminded in reading the following paragraph how little human nature really changes. John Donald wrote in The Southern Cultivater in about 1820:

The first cotton I ever saw was in upper South Carolina. It was little black seed in those times. Thirty to forty pounds was a day's picking for a grown hand, and fifty pounds was extraordinary. About that time, the green seed was introduced—a very great improvement. About 1816 or 1817 the Mexican seed was introduced. This was the most beautiful l
ever saw. As full of fruit as could be had from top to bottom. The next thing I remember the petit gulf. These were superior at first but soon dealers began selling seed that was not genuine. I have known persons to get sacks marked petit gulf in New Orleans, go up the river, have them filled indiscrimanately, presumably with inferior Louisiana seed, opposite Rodney, Mississippi, which is where the petit gulf seed was sold, and then when shipped, would date their bills up landing from Rodney to complete the deception.

That was in 1820. We just recently had our grain scandals down here, so it looks like human nature doesn't change too much. Folks do the same thing year in and year out.

The cotton culture dragged with it everywhere its heavy weight of the credit system. The credit system and the marketing system appeared on the surface to be good things. Like everything in life, the systems had two sides. The "heavy weight" of the credit system, if you can call it that, was that while the slave was enthralled to the planter, the planter was often enthralled to his banker, the factor, or the commission merchant, who, as we have seen, was a combination money lender and buying and selling agent. The following quotation, which I have taken from a book written about this time, tells you something about what was going on, and why:

These men own no lands or slaves. They planted no cotton. They limited their risks, and they grew rich building great houses in Memphis and New Orleans. If you went to see some of these houses, just go across the canal and over into the so-called "American" section on the other side of the Canal where the street names change from French to English. You will see some of these houses that they built.

Many of these [factors] were shylocks in frock coats. Yet whether at the Christening of a child, in the state legislature, or in their counting houses, there hovered about them an air of High Church respectibility and the heady aroma compounded of impeccable solvency and financial power.

Even with all of these abuses and with the demise of slavery in 1864, however, cotton continued. While the chaos which was brought about by the Civil War drastically reduced the U. S. cotton production, English cotton spinners in self-defense vigorously supported the huge irrigation program for Egypt, a program which then went on to make the Nile Valley one of the chief cotton growing regions of the world. Again, this area had the economic factors of labor, land, and climate.

During the past three-quarters of the century, approximately half of the cotton crop of the world has been produced in the United States. Most of the remainder has come from five countries: India, China, the U.S.S.R., Egypt, and Brazil.

U. S. cotton production today tends to be most heavily concentrated in the bottom lands of the Mississippi and in California. The Delta country, which extends from Memphis to Vicksburg, is a country which contains some of the richest and deepest soil in the world. The soil is a build-up of alluvial acretions of many, many centuries. Top growers in this region get 600 to 800 pounds of cotton per acre.

A very rapid look at an economic history of cotton must include, in the United States, the period of expansion from Whitney's time to a peak in about 1925 when nearly 4600 acres were planted in cotton in the United States. The period of contraction from 1925 forward was due to a number of things. The boll weevil came in from Mexico (of all places). We might remember that the boll weevil was not all bad. There is a statue to the toy weevil in Enterprise, Alabama. The people there thank their lucky stars that he came along because he forced them into planting peanuts instead of cotton.

There were other factors that entered into the decline [of cotton], factors such as increased foreign competition and, finally, of course, the great depression. Cotton, like all apparel fibers, felt the brunt of the catastrophic collapse of demand in the United States during the great depression. Expenditures for food can be cut but not eliminated. Clothes: that's another story.
During World War II, production was primarily for the war effort but little in the form of exports. People were not buying American cotton abroad. Foreign sales dwindled.

After World War II, problems for the cotton grower came up in the form of the synthetic fibers. Changing social conditions also had an effect. Blacks would no longer work on cotton farms. Other factors affecting the decline included the flight from the farms, competing uses for the land (people went into growing such things as soybeans), and foreign competition. The Mexicans, finding that the price was extremely advantageous in the U. S. due to the high support price, went into the growing of cotton.

So cotton growers for a while faced a difficult period. Recently, however, we have seen a very healthy upsurge in cotton. My statistics tell me that in 1969, there were about 9,985,000 bales of cotton produced at about 20.9 cents a pound. In 1974, 11,542,000 bales at 42.8 cents a pound were produced. You can see an increase in cotton production. Yesterday's Journal showed that cotton was 78 cents a pound, up from 51 cents a year ago. Before lunch Mr. Sakowitz was telling me that they expect a 25 percent increase in a very near term. So cotton seems to be coming back. What is doing this? Well, fashion trends: simplicity, comfort, they feel good, they look good. Cotton—"the world's premium fiber," to quote Erich Zimmermann—is alive and well. While cotton is no longer king in New Orleans, the cotton and rice exchange here has recently been revived. Exports of cotton last year (1975) through New Orleans amounted to 271,000 bales or some 6.9 million dollars. And that's not hay! That's a nice sum of money. So, you see, New Orleans, world trade, and cotton are still very much linked together. We believe, and I'm sure the port welcomes our belief that this association will continue for a very long time into the future.
WRITING FOR A RESEARCH JOURNAL

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While I was editing the Home Economics Research Journal I did not keep a score sheet comparing verdicts on papers in different fields, partly because many of the papers were interdisciplinary and not easy to classify. Also, I did not want to rank papers by fields because the comparisons might be misinterpreted. However, I did form some general impressions about the papers in various areas, although I cannot back these impressions with statistics.

On the whole, the papers in textiles and clothing were no worse than papers in most other fields, and better than those in some other fields. Naturally, there were good papers and bad ones, but the average paper was fairly decent. We need to remember that some papers in food and nutrition, textiles, and other fields might be submitted to journals in specialized areas, rather than to the Home Economics Research Journal. So I may not have seen a cross-section of papers in all fields. Nevertheless, I felt that textiles and clothing did not need to apologize about the quality of its papers relative to those from other areas of home economics.

A real problem, however, is that some home economics researchers are not submitting papers to any journals because they are afraid of rejection or because they do not know how to go about it. Many master’s theses report research which is never published; and, even more serious, many doctoral dissertations in our field do not result in published papers. In most departments in our university, doctoral research that is not published is considered to be unfinished. If textiles and clothing is to take its place among the various academic disciplines, we must establish a better publication record.

In my contacts with authors, I discovered that many of them were unfamiliar with how a research journal operates. Many of the mistakes they made resulted from that unfamiliarity. Obviously, people who do not submit papers at all must be even less well acquainted with how a research journal works.

First, everyone should understand that most research journals operate on extremely limited budgets. Usually, on all but the very largest journals, the editor is a researcher who is doing the editing job in addition to his or her regular work. In my case, I received some released time, a rather modest amount relative to the number of hours needed to edit the research journal. I believe that the present editor of the Home Economics Research Journal has no released time and must edit the research journal, which probably requires about twenty hours a week, entirely on her own time.

Second, the editor is probably paid only a nominal honorarium or basic expenses only. The managing editor, who is responsible for the physical production of the journal and who in the case of the Home Economics Research Journal is located at AHEA headquarters in Washington, is usually a person with some journalism background but no special training or experience in research. Support help, such as secretaries, is extremely limited: As editor, I had no secretary, only a part-time girl
Friday who came in three hours a week. I believe that Joan Gordon, the present editor, uses a pool typing service at the University of Minnesota. Consequently, the editor lacks both time and staff to check references, correct grammar errors, or smooth out writing. The managing editor cannot be expected to do these things because she does not have the technical background and might accidentally change the author’s meaning. In fact, we had a number of problems with meaning changes by the managing editor while I was editing the Home Economics Research Journal. This was a frequent problem when the Journal of Home Economics was publishing research, and was one reason that researchers demanded a separate journal.

Therefore, in submitting papers to a research journal the author should remember that the better the condition of the paper she submits, the less likely it will go to press with errors or pick up errors in the editing process. One of the most irritating comments made to me when I was editing the Home Economics Research Journal was the frequent statement by authors: “I know that you have people in your office to correct any mistakes I’ve made, so I didn’t really worry too much about checking for them.” My silent response to that was: “Why do authors purposely do things that may get their papers rejected?”

Many authors believe that research journals are commercial, profit-making publications like Scientific American, which edits extensively and has a large staff to handle papers. But even such a widely-circulated research journal as Science, a publication of the American Association for the Advancement of Science, is now suffering from a budget pinch and must watch its expenses carefully. Smaller, more specialized journals, usually subsidized by scholarly or professional associations such as the American Home Economics Association, have always operated on very narrow margins. With inflation of printing costs and postal rate increases this problem will become even more serious. I see little hope that research journals will be able to assume the checking and correcting functions which many authors expect of them.

All too many authors fail to check every scrap of information in references and citations thoroughly. Check citations against references. Check the numbers in tables to see that they add up. Often papers are submitted in which numbers don’t add up or text and tables disagree. Check and check and check again for errors of all kinds! Any error is a red flag to the editor and to the reviewers as a sign of possible concealed carelessness in the content of the paper or execution of the research.

Another irritating comment or request often made in letters accompanying submitted papers was a statement that the guide for authors or the style sheet of the journal had not been followed. The author would request that this be overlooked or explain that the guide was not followed for some particular reason. In very rare instances, as in the case of a paper which is of a completely different structure from those that are normally published, the style sheet or guide for authors may be partly ignored; but ordinarily it is suicidal to ignore the style sheet.

For one thing, a paper that does not follow the style sheet of the journal to which it is submitted is immediately suspected of having been submitted first to some other journal, rejected by that journal, and now submitted to this journal. This paper, of course, will receive extra-cautious scrutiny. Another conclusion that the editor may draw about a paper that does not follow the guide for authors or style sheet is that the author really doesn’t care whether his or her paper is published.

It is essential to follow the style sheet because journals do not have the funds to have papers retyped. If you do not put the paper in the proper form, nobody will.

Contrary to what you might assume, each picky regulation on the style sheet or guide for authors has a reason for being there. A paper must be in a certain form because of the review procedure of the journal. For example, in journals that use anonymous review the cover sheet must be the only place where the identifying information appears, so that when that sheet is removed the remainder of the paper is as anonymous as possible.

Second, the exacting requirements about captions for figures, table form, reference form, and the
order in which the paper is arranged all result from printing requirements. Certain parts of the paper go to different typesetters. Figures are photo-reproduced and captions are set up in type. The title of the paper may be set up on hot type and the body of text may be done on a computer-type machine. Technical requirements in the publication of the journal are a major reason for the detailed requirements of the style sheet. If you do not follow instructions precisely, your paper either may not be published or may be published with rather major omissions or errors such as mislabeled figures.

A major problem is that many papers are not written clearly. Most authors of research papers have not had any courses in writing since freshman English. The textbooks and journal articles that they see as models are often very poorly written. Needless to say, authors are insulted when an editor or reviewer tells them that they write badly. Many authors love jargon and use words that they do not understand. I had some amusing and very frustrating experiences with this situation while editing the research journal. One author, for instance, used the term "order of magnitude" in a paper several times without knowing what it meant. No doubt he had seen it in other papers and it sounded impressive. "Parameter," "paradigm," and "dichotomy" are some current fad words which authors are crazy about.

Please study modern scientific or expository writing, perhaps in evening or extension courses. Styles in research writing have changed. Many authors are startled to find that use of the first person is now recommended in research writing. Formerly only the third person was used. Constant use of the passive voice is now recognized as clumsy and roundabout.

So much for the mechanical aspects. Now for the review process. When you paper is first submitted to a journal, it will be reviewed at least superficially by the editor who must decide whether the paper is fit to be sent to reviewers or whether it should be returned to you for further work.

Even experienced people in home economics research frequently assume that the editor is perfectly neutral and plays no part in the evaluation of a paper. This is not true. An editor cannot avoid taking a viewpoint and playing a fairly substantial role in whether a paper is accepted or rejected. The editor must provide leadership and set a standard for editorial board members and other reviewers. Occasionally the editor has information about the paper that the reviewers do not have, information which may suggest that there is plagiarism or some other kind of problem. The editor then needs to check this out or obtain the help of people who will check it out. Sometimes the editor must make judgments that certain reviewers are not qualified, are prejudiced, or are perhaps jealous. Not uncommonly the editor must make a decision when several reviewers have disagreed. Therefore, it is in the author's best interest to make the editor feel as favorable as possible toward the paper. The best way you can do this is to submit a paper in the best possible form. It would be nice if the editor could be absolutely objective; but editors, after all, are people—-at least I hope they are!!

Many people in textiles and clothing, even graduate students, are not aware that a paper coming to a research journal, at least a legitimate research journal, will be sent to at least one and in the better journals two or more reviewers for evaluation as to whether it should be published. The editor generally selects the reviewers from the editorial board and from a list of other qualified people in the field. If possible, the editor will select a reviewer from among people listed in your reference list; therefore, it behooves you not to misquote anybody or to give erroneous citations or to omit citations. I found it funny when authors were shocked to realize that the reviewers were people whom they listed in their reference list. Is that not a perfectly natural choice of reviewers? And, believe me, reviewers who have been misquoted or misinterpreted or quoted without credit (worse of all) can get hopping mad at authors!

One special word of caution to you as home economists and mostly as females, you may wish to avoid journals that do not use anonymous review—that is, journals that tell their reviewers who wrote the paper. Anonymous review is by no means a universal practice of research journals. There is evidence that papers submitted by females
to journals that identify authors are rejected more often than would be expected if sex were not a factor.

The Home Economics Research Journal uses double blind review—that is, the reviewers do not know who the authors are and authors do not know who the reviewers are. Reviewers often suspect that they know who the author is; sometimes there are unavoidable clues in the paper which give this away. But I was amused and felt good to discover that reviewers often guess wrong about who wrote a paper and authors often guess wrong about who reviewed their papers. I do believe strongly that the list of reviewers should be published by the research journal. Many reputable journals do this, including the Home Economics Research Journal.

I hope that we will soon be mature enough to publish a reviewer’s comments in conjunction with a particularly controversial paper, as some journals occasionally do. One thing that disappointed me while I was editing the Home Economics Research Journal was the near-total lack of letters to the editor criticizing or commenting favorably on papers that were published. I tried to encourage reviewers to submit some of the most interesting comments about a particular paper in letter form so that these comments could be published, but only once did this occur. Once I got so desperate that I wrote (and published) a letter to the editor from myself! Publication of responsible criticism is something that home economists must do if we are to mature as researchers.

You might ask how to tell if a research journal uses anonymous review. One symptom is that its instructions specify that the cover sheet carry all the identifying information and that the body of the paper not have the author’s name or affiliation anywhere on it. That will generally indicate anonymous or blind review. However, if the review policy of a journal is not clear to you, write to the editor and ask for an explanation of the review procedures. If the journal does not state these clearly, I would stay away from that journal.

Whenever a potential reviewer said to me, “I can’t tell if the paper is good unless I know who the author is,” I struck that person off my list of possible reviewers. If you need to know who the author is to know if the paper is good, you are not judging it objectively!

How can you prepare your paper so that it will be reviewed as favorably as possible by a research journal? Have your paper reviewed before it is submitted to the research journal. Ask a person who is qualified in scientific writing to go over the paper. This person may be someone in the English department at your university or, if you’re lucky, a research editor specifically employed for this purpose. At Iowa State University we have an experiment station editor with a staff that goes over papers for errors in writing and lack of clarity. If the paper is very poorly written in the first place, of course, there’s not much that they can do to help. Therefore I repeat my advice that it’s up to you to learn how to write well if you do not.

Second, have the paper reviewed by some of your fellow workers who are in related fields. They may be able to identify places where things are unclear or where you do not present your research in the most effective manner. Tell them that you’re not merely asking for a flattering rubber stamp or go-ahead on this paper, that you really want a critical review, because that’s what you do want.

Third, have your statistical advisor or other consultants review your paper for these particular aspects. If they are willing to review the whole paper that would be even better. And, finally, if there are any granting agencies or supporting agencies involved, it may be appropriate—in fact, it may be required—that people within that agency review the paper before it is submitted to a journal.

This “internal review” is slow and some authors become impatient, but it is important. And don’t be shocked, even though you have had the paper reviewed by several people before you submit it to a research journal, when the reviewers for the research journal find other things to complain about. I have often had that experience. The internal reviewers do not catch everything and may have a somewhat different point of view from the research journal reviewers.
In the end, publication of your paper will depend on the quality of research. Other problems may delay or side-track publication and may even mean that a piece of good research is not published because it is submitted in very bad form or incomprehensible writing. But what is really most important is good research design and appropriate research technique. We look always in selecting papers for journal publication or as users of research for papers in which concepts are defined clearly, in which the theoretical framework is made explicit, the references are integrated with the content of the paper (not merely listed without explanation), and citations are effectively used in defining and analyzing the problem as well as in interpreting the results. These characteristics are all too often missing, not only in papers that are submitted, but in too many papers that are actually published in research journals. It is essential for us to upgrade the quality, not only of our research papers, but of our research itself.

Now, what is the purpose of journal publication? As I was planning this talk, I thought that I could call it, "Writing for a Research Journal—Why Bother?" The purpose of journal publication is, first, to inform others of your research. Publication in dissertation microfilms or as master's theses which can be obtained only on inter-library loan (and that does not really qualify as publication), in locally-published bulletins or local journals, and in other limited places does not get the research before the public or before your co-workers, because it is not picked up in standard abstracting and indexing services. If the research is worth doing, it is important to disseminate the results.

Second, in journal writing, at least good journal writing, the research is boiled down from the lengthy and detailed form of dissertations and experiment station bulletins into a more manageable, digestible size and shape so that it comes across with greater impact. Compare reading a two-hundred-page doctoral dissertation with a good ten-page research article. As researchers we are spending money; we are using human resources; we are obligated to get our findings out in usable form.

The third major purpose of research journal publication is to get feedback of criticism, a purpose served only by review by others not connected with the research. This kind of review does not operate for university-published internal journals, experiment station bulletins, theses, and generally not effectively for books. It is only the research journal system that gives us this tough and (hopefully) objective criticism which we all need to improve our work.

I recognize that such criticism is often painful to the beginner, but as one becomes more experienced one begins to understand the value of such criticism and to handle it more objectively even though it may still be painful sometimes. In many cases each of us is the only person in our particular specialty at our own institution; we would keep making the same mistakes if it were not for the criticism that we receive from peers outside the institution. This is our means of learning how to improve the quality of our research.

In closing I would like to comment on a proposal that has been circulating for a number of years: that ACPTC start a textiles and clothing research journal. I have been on the record in opposing this for a long time. First, textile researchers already have several outlets of varying quality. Second, the Home Economics Research Journal is now available to clothing researchers and reaches wider audience than would a journal of our own. This is important both for visibility and for inter-disciplinary papers such as those on children's clothing, which would also be of concern to child development people. Other papers might be of interest to home management and family economics people. We would not be likely to reach others with our own journal.

In a broader sense we should aim for still wider, not narrower, audiences. We may have papers that are suitable for journals in applied psychology, marketing, consumer research, and so on. If we do, we should submit to these journals and make ourselves and our work better known to people outside of our field. Wider recognition is important for obtaining further funds for research.
The cost both in money and in human time to publish yet another research journal is too great. Who would we get as editor, and where would we get the money? The American Home Economics Association is subsidizing the *Home Economics Research Journal*. AHEA is short of funds; I'm sure they would be unwilling to take on subsidy of another journal. An editorial board would have to be appointed. A research journal sponsored by ACPTC would be competing for people as well as funds with the *Home Economics Research Journal*. At this point, I think there are too few people in this field to do the job well on one more journal.

With the scarcity of funds, libraries are going to be hesitant about purchasing additional research journals and may even have to cut back on the number to which they now subscribe. Altogether, this seems to be a poor time for launching a new research journal.

What I think should be done now is what many other associations, such as the American Economics Association and the American Statistical Association, presently do. This is to emphasize presentation of research at our meetings and to appoint two or three persons as discussants of each group of related research papers. These people must receive copies of the papers in advance and prepare critical discussions, both favorable and unfavorable. These discussions should be presented at the meetings and published along with the papers in the proceedings of ACPTC.

One drawback of proceedings is that they may constitute prior publication. In general, research papers which are given orally at meetings such as this and published in the proceedings of an association are not acceptable in similar form for publication as articles in a research journal. The copyright situation is a major problem; another reason that journals are hesitant to publish papers that have already appeared in proceedings is just plain cost. Why should things be printed twice when expenses are so high today? The policy statement of the *Home Economics Research Journal* on prior publication appeared in the March 1975 issue. Various journals have differing policies, and all these are subject to continued review.

Publication in proceedings provides an excellent outlet for preliminary and exploratory research, whereas findings from completed projects may be submitted to research journals for more formal publication and wider dissemination. Use of discussants at meetings provides the researcher with a feedback similar to that obtained from journal review. Although much has been made of the abuses of “publish or perish” it is also true that if we do not publish our findings so that others can read and apply them, we may be in danger of perishing as a field of study. Those who teach full-time and whose jobs do not require research are dependent upon those of us who do research as a source of current subject matter and improved understanding of the field of textiles and clothing.
I am happy to talk to you all about New Orleans, and since I am a native of New Orleans, my talk will tend to have a slightly prejudiced approach. If Dr. Winakor is in the audience, I want to assure her that I am not going to use "paradigm," "dichotomy," or "parameter," since I do not know what any of those words mean.

I'm going to tell you about a city of contradictions. Let me first explain what I mean by a contradiction. There once was a Cajun—by that I mean Acadian, which is what some natives of New Orleans are called—who came into one of our refreshment parlors on Bourbon Street. He said to the bartender, "Fix me the contradiction cocktail." The bartender shrugged his shoulders and said, "I have been a bartender for forty years, and I have never heard of a contradiction cocktail." The customer replied, "Well, it's quite easy to make. You pour in a little water, which makes the cocktail weak. Then you add a little whiskey, and that makes it strong. Next you put a little sugar in, and that makes it sweet. Finally you add a little lemon, and that makes it sour. Then you say, 'Here's to you;' and you drink it yourself." That's exactly what New Orleans is: a contradiction cocktail.

Canal Street, which is 171 feet across, and so the widest street in America, was named for a canal that was never dug. This hotel is on the very edge of what we call the French Quarter. And why do we call it the French Quarter? Because it was built by the Spaniards. The Spaniards later put a roof over it. Today it is largely occupied by Italian merchants who get their vegetables from what we call the German coast. It was rebuilt by W.P.A. American money. So the only logical thing to do was to call it the French Market. And from the French Quarter, we can watch every morning as the eastern sun rises on the west bank of the Mississippi River, which is just across the river from here.

But all these contradictions combined are not as unusual as the great Latin festival of Mardi Gras, which I'm going to talk to you about today. This great Latin festival, as we celebrate it in New Orleans today, was imported by six Anglo-Saxons from Mobile. This great festival is the culmination of all the carnivals, and carnival season is the merriest season in the United States. In New Orleans we call it Mardi Gras the greatest free show on earth, because it isn't subsidized except by crew members—that is, members of organizations called "crews." It is not given any subsidies from the city, state, or any organization of commercial merchants. It is put on by dues-paying members of organizations for the benefit of the public, their friends, families, and for themselves. It is quite a binge, as I'll try to tell you in a few minutes.

Now what is Mardi Gras? Mardi Gras means "Fat Tuesday." In pure, simple French language, it means "Fat Tuesday." Why is this Tuesday particularly "fat?" Because it's supposed to be the last fling. In the antiquity of the Latin countries, this is the last fling before the austerities of Lent. Mardi Gras, "Fat Tuesday," is always the day before Ash Wednesday, which is the beginning day of the Penitential Season of Lent. This means forty days of fasting and abstinence; it was much more stringent in the past than it is today.
Thus, Mardi Gras is the summation/round-up of the carnival season, which usually starts on the sixth day of January, which is called “Kings Day” or “Twelfth Night,” as in one of Shakespeare’s plays. The carnival season starting on the sixth of January continues until the days of Mardi Gras. That makes carnival anywhere from about thirty-two days to about sixty-three days, because Mardi Gras is a movable feast. This is because Mardi Gras is geared to Easter, which is also a movable feast. The date of Easter is determined by the Spring Equinox. The Spring Equinox is March 21, normally. Then Easter falls on the first Sunday following the first full moon after the Spring Equinox. Starting at Easter and counting back forty-six days—that’s forty days plus six Sundays—you locate the date for Ash Wednesday. Mardi Gras is the day before that.

But if you wait to do all that, it’ll all be over, and you’ll miss the fun. So what you have to do is look up in the World Almanac to find out when Mardi Gras is, when Ash Wednesday is, and when Easter is, every year, even though Mardi Gras and Easter are movable feasts. When the carnival season lasts only thirty-two days, as is sometimes the case, when Mardi Gras is early (and it can be very early in February), things can be tough, because we have sixty-four carnival balls down here at the municipal auditorium; and the people come more or less stepping on each other’s toes, back-and-forth over each other when Mardi Gras is celebrated in such a narrow time period.

Now this year, Mardi Gras falls on February 22, which used to be Washington’s birthday, before Congress started changing the days of the national holidays. So this year we’ll have a little more extended time. The earliest Mardi Gras can fall is on February 3, which means the season lasts only a month; or it can run as late as March 8 or 9, which means it’s a very long season. During this season, however long or short it happens to be, we have carnival balls. In the last week we have the harvest of the parades, which culminates on Mardi Gras day. Now, Mardi Gras day is a most unusual day. You’ll find one-half million people on Canal Street alone. It’s really wall-to-wall people. It’s a fantastic sight, as everybody is stepping on everybody else’s feet, but good humor usually prevails. The parade of the Rex organization—“Rex” meaning the King of Carnival—covers a seven-mile route, and along that route you will find people lined up three, four, five, maybe fifteen deep in some sections, from the street back to the curb. And on what we call the “neutral ground,” on Saint Charles Avenue, which is the center of the area, the street cars run. Overall, it’s a fantastic turnout.

New Orleans has a reputation of turning out for parades. The old saying is that one-half of the people of New Orleans will turn out to see the other half parade, and this has come to be a tradition among New Orleanians. But there are a lot of people who come into New Orleans for carnival, particularly people in the neighborhood—that is to say, from forty to fifty miles around, truckload after truckload. There will be anywhere from 50,000 to 60,000 people or more in costumes on the street. It’s a fantastic operation.

When did this thing start? The very first European name that appeared on the map of Louisiana was the name of “Mardi Gras.” It was on Mardi Gras day, March 2, 1699, that the explorer from Canada, Ibbabill, came into the Mississippi River. He stopped about seventy-five miles down from where New Orleans is today. It was a little bayou with streams running into the river. The little point of land right where he camped he named “Plantou Mardi Gras,” Mardi Gras Point. He named the little bayou “Bayou Mardi Gras,” and that was the very first name given by a European in what we now know as Louisiana.

Most of you folks who live west of the Mississippi River, since you are from this side of Colorado, are ex-Louisianians. Louisiana originally ran all the way from the Alleghenies to the Rockies and included all the land drained by the Mississippi River and its tributaries. Then after the French and Indian War, Louisiana was the area (except New Orleans) west of the Mississippi to the Rockies. So most of you folks are from that area and ex-Louisianians, and I want to welcome you home.
But when did all of this parading business start? The French, you know, settled and established New Orleans in 1718, and France held it until about the mid-1760s when it was given to Spain. During the French and Spanish regimes, we know, there were carnival celebrations. We don’t know if there were any parades, but we do know there were balls and bets and masquerades, because that was a commonplace thing. It goes back into antiquity in Italy, Spain, and France.

The very first crisis that took place under the American flag took place in 1804, just a couple weeks after the transfer of Louisiana to the U.S. The very first crisis was over what kind of music was going to be played at the carnival ball. All the French, the Creoles, wanted French music, and all the Americans, who had flocked in immediately after the purchase and in sufficient numbers to be vocal, insisted that American or, rather, English country dance music be played. They were at dagger’s ends. It stopped only when Governor Clayburn, who was the acting governor, got up on a table and started singing “Hail Columbia!” That ought to have set music and dancing and everything else back for about twenty-five years. But it did stop the riot because everybody was astounded to hear this governor burst into song when they were about to pull swords on each other. So the first crisis under the American flag was at a carnival ball. Thus, you see, we come by this interest in Mardi Gras very honestly.

The first parade that we know anything about was on Mardi Gras in 1837. There may have been earlier ones, but that’s the first one we can find a record of. These parades were sort of a do-it-yourself. Somebody started as head of the parade, and others just wandered around, following him around like children playing follow-the-leader in school. They were in costumes; some of them were on horseback, some on foot, and some in gaily decorated carriages. It very quickly got to be sort of rowdy because somebody decided it would be a cute idea to bring a few little trinkets to throw to the spectators. They brought little candies, sweetmeats, oranges, and things like that. That was a lot of fun with people on the sidelines watching and people riding in carriages tossing these little gifts. But then one bright gentleman thought it would be fun to play a joke on his friends along the street. He brought little bags of flour, and when he’d see someone he knew he’d pelt him with these little sacks of flour. That covered him with flour, but it was all good clean fun until the next year, when all the people on the sidelines brought their own flour bags and started peltng people in the parade.

In the next stage of this thing—the “throw,” as I’ll tell you in a minute, is the generic term for the thing that is thrown to the crowd and is an integral part of the carnival or carnival parades—somebody decided that he could be more accurate in throwing these flour sacks if he’d put a little piece of brick bat inside of it. This issued in the “guided missile” period of the throw; they could be more accurate in directing it toward a target. On top of that, it mixed blood with the white flour. You might say this is where technicolor entered carnival.

This rowdyism got so bad that the Creole press and public and everybody else clamored, “Let’s do away with this barbarous practice! Here we are in the enlightened 1840s, a modern nation, a modern city. What are we doing with this barbarism?” Mardi Gras was going right down the drain because of this rowdyism.

By 1850, it was really very bad. In that year, Mardi Gras also happened to be Fireman’s Day. In those days the volunteer fire departments or fire companies were like college fraternities and social clubs. You had to be invited to be a fireman. You couldn’t put out a fire if you weren’t invited and properly pledged. So the big day was to put on the Fireman’s Parade and also Mardi Gras. One of the fire engines was being all decked up when one of the members came in shouting, “There’s a fire down the street!” Others replied, “We can’t go to the fire. We’re getting our engines decorated for tomorrow’s parade!” So half the city burned down. But the Fireman’s Parade that day, or the next day, got a great deal of space in the newspaper, Mardi Gras got less, most of it saying, “Mardi Gras is dead. The earl of Mardi Gras is now gone forever.” There was no one on the streets but a few rowdy boys and painted jezebels. That was it. It looked like we would have no Mardi Gras in the future.
Then, in the year 1857, a group that six Mobilians had organized from the Anglo-Saxons saved this great Latin festival. They created an organization called the “Mistic Krewe,” spelled that way to give an Old English touch. “Crew” is now a generic term for every carnival organization, but it basically belonged to the “Mistic Krewe of Comas.” Comas was one of the lesser and later deities, the god of revelry. John Milton, of course, wrote “The Mask of Comas.” The six Anglo-Saxons who organized the crew were classical scholars, so they picked Comas because of Milton. They came on the streets in 1857, and saved carnival, or Mardi Gras. This crew gave Mardi Gras the form and the substance and the pattern that we have to this day. It was organized, whereas the earlier celebration was not.

There was a little break in the continuity during the Civil War. After the war, carnival began its great surge. In 1872, another organization, the “Knights of Comas,” came into being. And “Rex, the King of Carnival” self-styled himself to King Carnival. Then in 1882 came another part of the so-called “Big Four,” the oldest crew: the “Crew of Proteus.” Proteus was a sea god, not the sea god but a sea god. He was in charge of the sea cows and seals that belonged to Poseidon, who was the sea god.

At any rate, these four organizations continued right on down into my day. In my youth, before these things were augmented, there were just these four. There were a few additions, maybe six or ten more at the most, between World War I and World War II. But the impetus between World War I and the present was fantastic! Instead of the four parades that existed as late as my boyhood, we now have forty-four in New Orleans and its immediate suburbs. Instead of having three or four carnival balls as they had originally, we added about ten at the turn of the century and now have sixty-four in just one place, the Municipal Auditorium. Thus, carnival in New Orleans represents about a $10-15-million chunk of the city's economy: New Orleans money spent in New Orleans by and for New Orleanians.

Here's how we do it. The sixty-four carnival balls each cost a minimum of about $25,000. Maybe you-all can multiply that out for me. In addition, people pay dues to help put the forty-four parades down the street. Each person in the parades averages paying about $100-$125, and in some instances much more. Members will then buy at least $150 worth of “throws,” things to throw. The throws are stuff that nobody in his right mind would want on any other occasion, but folks will go under the floats looking for them during the carnival parade. The people of New Orleans are crazy! Wonderfully crazy, but crazy! These things represent an investment of at least a half million dollars and are thrown into the streets of New Orleans annually.

As another example of the economic impact of Mardi Gras, let's look at something you ladies are more familiar with than I am—your hairdos. If we stopped Mardi Gras today, half of the beauty parlors in New Orleans would go broke. There are sixty-four carnival balls with about 2,000 ladies invited. These are invitations, not tickets. They're personalized, and there will be some repeats, obviously: but you figure out how many hairdos you'll have during that period, and you can see what a sizable amount of the economy of the beauty parlors it is. Dress clothing is something which is in your line, not mine; but a fashion editor friend of mine tells me that New Orleans sells more evening clothes for both men and women than any other city in the country. That statistic is hardly a proportion to the population, because obviously New York is ten or twelve times as large as New Orleans. Chicago, Los Angeles, and a lot of other places are larger, too. But more ladies' evening gowns and men's formals are sold in New Orleans than in any other city in America. That's understandable when you consider how many other places in the country have a minimum of sixty-four carnival balls a year. (There are other balls that are not at the Municipal Auditorium, by the way.)

So we like to say Mardi Gras or Carnival is three or four things. First, it's the greatest free show on earth because it's paid for by the members of these organizations and “John Public,” the man on the street, who with his children has been enjoying these festivities for years and years. They do it for nothing. Members' dues pay the bill. Second—and I got this from a Tulane psychiatrist one time without lying on his couch—this is the
greatest community psychiatric treatment in the world. He said, “No city in the world has a steam letter opener like New Orleans has during the carnival season culminating in Mardi Gras day. The mental health of the city has to be better as a result of this great escape hatch for the pent-up steam of the community.” On top of that, it’s a tremendous chunk of the New Orleans economy.

It also has strong social implications. The older organizations pick their queen and their courts from the annual crop of debutantes. It’s possible that a grandmother, mother, and daughter might all have been queen of an organization’s ball. It’s almost like a dynasty. The rulers of these organizations come from what we call the “old line.” Selection of rulers is a law unto itself. Each organization makes up its own rules without reference to anybody else. They do vary, but basically the older organizations never identify their kings. Rex, however, is identified. It is an honor of a civic nature to be picked as Rex, King of Carnival. The man who is Rex rules as king for a day. He is generally a public figure, a civic worker who has done a world of good for the community. But the other kings of carnival—Momas, Comas, Proteus, and right on down the line—are behind a mask and are anonymous, although when a king gets out on the floor, everybody in the auditorium or the ballroom knows who he is because so-and-so has spindle legs and somebody else has some other torso feature that is easily identifiable. But they’re never formally identified. It’s a well-kept secret, usually down to the bitter end. The secret of who is King of Carnival is kept until some day just before the Mardi Gras, which would be Sunday, Monday, or Tuesday. Then they announce the King to the membership of the organization, and it’s publicized in the press.

This “mock-royalty” thing is tongue-in-cheek, of course; but to show you just how seriously tongue-in-cheek it is, let me tell you about two of the guest many years ago. One was the man who had sat upon the throne of England, the other the woman for whom he gave up that throne, the Duchess of Windsor. They were presented to the King of Carnival and to the King of Comas and his queen, and they stuck their tongues in their cheeks and played ball just like everybody else. They bowed most formally and curtsied most carefully or courteously or whatever you do when you curtsy. They really played the game. They made a tremendous hit with everybody in the auditorium and with the crew people, because here was a real bone fide king putting on “mock royalty” for a republic which broke its ties with the kingdom he had ruled. Everybody loved them because they recognized the spirit of carnival—tongue-in-cheek.

Today, of course, it is wild. It is absolutely wild. By that, I mean you go day after day after day. But let me close by saying what the great humorist Ring Lardner once said. Fifty years or more ago, when the carnival was a very mild sort of a thing (only about twenty events to go to in a week), Lardner came to New Orleans for Mardi Gras. He went to every single thing that took place; he went to Comas ball and he went to Rex ball and so forth and so on. Then, when he went back home after this fling, he wrote that, after being in New Orleans for the Mardi Gras Carnival fling and the Mardi Gras wind-up, he understood “why on Ash Wednesday the people of New Orleans woke up Rex in a state of Comas.”
CONSUMER NEEDS DICTATE QUALITY TEXTILE RESEARCH

George L. Drake, Jr.
Southern Regional Research Center
New Orleans, Louisiana

It is a real pleasure to have been invited to present a talk before such a charming group. What I would like to talk about today is consumer needs and how they dictate the need for research.

For thousands of years plant fibers have been meeting human needs in a surprisingly competent way. For many centuries man was content to use these natural products as he found them. With the advent of the age of science and technology at the turn of the century man began to realize that some of nature's products just could not perform the jobs that increasing industrialization demanded. With more and more knowledge available as a result of research, scientists began to think in terms of designing products that would serve the purpose better than natural products, and in terms of machines which would do tedious jobs efficiently, thus freeing men to do more thinking and make more improvements.

Technology has made tremendous progress in the utilization of plant fibers. Cotton, as a result of these advances in science, has been given many new, unusual, and useful properties through the application of chemistry. But cotton is only a part of the story.

Cotton has always had many desirable properties and has always been the most widely used fiber, but advancing technical knowledge led to the development of rayon and many other manmade fibers having properties that cotton did not have. For example, some synthetic fabrics resisted wrinkling and some even dried after washing with creases in place and required little ironing. Then, too, fiber diameter and fiber length could be controlled to close tolerances in these man-made fibers to give an extremely uniform product.

The introduction of synthetic fibers having improved properties for certain uses forcefully demonstrated that if cotton was to hold its important place in the economy of the nation, research to give it the properties it needed to compete successfully with these specialty fibers was a necessity, especially to meet consumer needs.

Many organizations have participated in a variety of projects to attain this goal and are actively continuing research to increase the versatility of cotton and to expand the markets in which it is consumed. One of these organizations is the USDA's Southern Regional Research Center located in New Orleans, Louisiana, where research on cotton has been carried out since 1941. This research has been directed toward learning more about cotton fibers—by developing new chemical treatments which will give cotton the ability to be wrinkle, crease, flame, rot, and heat resistant, water repellent, more receptive to dyes, etc.; by improving the quality of products made from cotton; and by developing new

*One of the facilities of the Southern Region, Agricultural Research Service, U. S. Department of Agriculture.
machinery and methods to efficiently process cotton into textiles. The research at SSRRC is complimented by cooperative work with universities, industries, state experiment stations, and trade organizations.

Most of you visited the Center yesterday and got a good picture of what type of research is being done in the area of food. My presentation will be limited to research on textiles. Time does not permit me to cover every facet of our research; therefore, I have limited it to research related to consumer needs.

From a research point of view, the more important means of maintaining or increasing consumer needs is to improve cotton quality and its processing efficiency, and to change it chemically to give it the properties it does not have without sacrificing the good ones it already possesses. Quality improvements and the building in of new properties are made through chemical and physical treatments, while better processing is attained through improved manufacturing operations and machinery developments. Both of these presuppose the availability of knowledge that can solve the problems that exist. This knowledge comes from fundamental research which supplies the data and the facts to be used where needed and supplies more sensitive instruments to measure precisely the characteristics and properties, thus directing research into effective channels.

First, let's look at the nature of the cotton fiber and approaches for achieving quality textile products. The cotton fiber is a complex, well-ordered unit that is generated during the growth cycle of the cotton plant in the form of a long, hollow tube, approximately 20 microns in width by 25,000 microns (1 inch) in length. Each fiber has a twisted convoluted ribbon-like structure, with a somewhat furrowed surface. It is composed of a multitude of microstructural units which are packed in close proximity and are microfibrils; these units become evident when an expanded portion of a cross section of a cotton fiber is examined under high magnification. The surface of a slab torn out of the cotton fiber shows the microfibrils, at high magnification, in an arrangement which they have in the fiber. These microfibrils are composed from cellulose molecules, which in turn consist of more than 3,600 D-glucopyranosyl units joined in a linear chain.

The hydroxyl groups in cotton cellulose, upon which we depend for the crosslinking reactions and for the development of performance properties, are buried in the cotton fiber. Only a fraction of these potential sites for chemical reaction are actually accessible to the reagent in conventional finishing operations. Moreover, there are two different types of hydroxyl groups in the fibers of cotton cellulose - i.e., secondary hydroxyls at carbon atoms 2 and 3, and primary hydroxyls at carbon atom 6 of each D-glucopyranosyl unit. These three hydroxyl groups react at different rates, and the linkages developed exhibit different stabilities.

How does the chemical reagent reach the hydroxyl groups in the bulk of the fiber? While the cross section of the native fiber, or a mercerized fiber, shows no pores or channels even at the high magnification of an electron micrograph, the cross section of a fiber, swollen as a result of wet embedment in methacrylate polymer, exhibits a selective concentric expansion with the development of a pattern. The expansion and pore development that the fiber undergoes in aqueous solutions of crosslinking agents are probably of this same type but considerably lesser in degree. The pores of decrystallized cellulose have been estimated by gel permeation chromatography to accommodate molecules of sugars having molecular weight ranging downwards from approximately 1800. Sugars having molecular weights slightly below 1800 find very few pores of adequate size; however, with decreasing molecular weight of the sugar, an increasing number, or volume, of pores becomes available to accommodate the sugar molecules. Preliminary assessment of pores in fibrous cotton by the same method has indicated a permeability limit in the range of 2800. It is quite evident, then, that the normal type of crosslinking flame-retardant agent, which has a molecular weight in the range of 100-200, finds many pores or channels through which it may reach the hydroxyl groups of the cellulose molecules in the microstructural units.
By listening to the consumer demands our re­
searchers can make every effort to impart
properties to fibers to satisfy these demands.
One thing we need is more input from the
consumer—that is, from people like you. You are
the ones who know the many problems and needs
in your fields.

Subjects to be discussed will be flame re­ta­dancy,
rot, weather and heat resistance, stretch, improved
luster, oil and water repellency, crosslinking and
durable press.

Flame-Resistant Cotton

Two million burn accidents occur annually. (This
estimate includes only burns serious enough to
require medical attention or at least one day's
restriction of activity.) From 12,000 to 13,000
deaths occur annually as a result of burns. (This
number represents approximately 10 percent of
all deaths from accidents.) Approximately 10,000
hospital beds are occupied daily by patients with
severe burn injuries. (This occupancy represents
2 percent of all available hospital beds and ac­
counts for over 3.5 million bed-days annually.)

Seventy-five to one-hundred thousand burn
victims require hospital care averaging 70 days.
(Average hospital cost for burn patients are
$160-$180 per day.) Hospital costs for burn
victims are close to a billion dollars a year. These
costs do not include loss of time and productivity
capacity. Ninety percent of burn patients must be
cared for in general and community hospitals
because of the shortage of specialized burn care.

The most common causes of burns are:
flames— approximately 40 percent; scalds from
hot liquids—approximately 30 percent; hot
objects— approximately 10 percent; electrical
arcs—approximately 6 percent; chemicals—ap­
proximately 5 percent; steam—approximately
5 percent; semi-liquids/semi-solids—approxima­tely 4 percent.

The great burn hazards for children are: heaters
and stoves—approximately 33 percent; hot
liquids or vapors—approximately 24 percent;
electrical appliances—approximately 7 percent;
chemical burns—approximately 4 percent.
explosive or fire of play equipment—approxima­tely 3 percent; combustible fluids—approximately
2 percent; matches—approximately 2 percent; unspec­ified—approximately 25 percent.

About 75 percent of burns occur at home (inside
or outside), about 20 percent occur at work, about
1.5 percent occur on streets or highways, and
3.5 percent result from other or unknown causes.
Most burn deaths are in the winter months of
November through March.

Since cotton is one of the major fibers used in
production of civilian, military, and household
items, there is concern over its flammability.
Several techniques have proved useful in the pro­
duction of flame-retardant cellulosic fabrics:

1. Simple substitution of the cellulose
2. Coating fibers with thermoplastic polymer
3. Deposition of thermostetting polymer within
the fiber
4. Complex substitution of cellulose combined
with internal polymer deposition
5. Combinations of any of the above.

The task of developing an effective, durable flame­re­ta­rrent finish for cotton is difficult because of
the many requirements the finish must meet. To
be satisfactory for most uses, a flame retardant
must (1) be easy to apply, principally with existing
finishing equipment from a water solution, (2) be
effective with few additives to avoid extensive
increases in weight (3) produce a finish durable to
laundring and drycleaning, (4) leave the fabric air
permeable, (5) be physiologically inactive,
(6) render the fabric resistant to afterglow, (7) not
stiffen the fabric appreciably, (8) cause little or no
loss in strength or change in dye shade, and
(9) be reasonable in cost.

Phosphorus-containing compounds are by far the
most important class of compounds used to impart
durable flame resistance to cellulose. Used in
conjunction with phosphorus are the elements
nitrogen or bromine, or both. The most widely
used durable flame retardants for apparel and
household goods, and for certain military items such as tent liner fabrics, are based upon tetrakis (hydroxymethyl) phosphonium chloride (RHPC), a treating agent discovered some years ago by USDA researchers. Several processes have been developed using THPC as a basis and have been marketed in England under the Proban label and in the United States under Roxel and other labels. Recently some new processes have been developed based upon tetrakis (hydroxymethyl) phosphonium hydroxide (THPOH). When one mole of THPC is reacted with 0.8 to 1 mole of NaOH, a mixture of methylphosphorus compounds results, and this mixture is referred to as “THPOH.” One process uses THPOH, urea, and trimethylolmelamine (2:4:1 mole ratio) plus various auxiliaries. About a 35 percent solution is applied to an 8-ounce cotton fabric, which is subsequently dried and heat cured. Treated fabrics retain 80-90 percent of their original breaking strength; wrinkle recovery is fairly high (2800 W+F); there is little or no stiffening of the fabric; and rot resistance is good. This finish is applicable to a wide variety of fabrics and is durable to normal laundering and drycleaning.

Another new, simple, and extremely attractive technique for producing flame resistance is the THPOH-NH₃ process. Fabrics are impregnated with the THPOH solution, dried to 10–20 percent moisture, and then exposed to NH₃ gas. An 8.5-ounce twill or sateen will pass the standard vertical flame test with about a 13 percent add-on. Of particular interest is the fact that this process can be used on very lightweight fabrics—a 2-ounce fabric needs about 20 percent add-on. The hand is essentially unaffected; breaking strength remains unchanged, sometimes increases; and, with a softerer, tearing strength reduction is negligible. Very recently, this finish has been successfully used to impart flame resistance to knitted fabrics used in the fabrication of childrens' sleepwear.

Heat-Resistant Cottons

Heat-resistant cotton fabrics resist scorching when heated at temperatures that normally scorch cotton fabrics, but they are not flame resistant. Moist heat causes more degradation than dry heat, but a completely wet fabric is degraded least of all.

Heat-resistant fabrics are needed for ironing board covers, for hot-head presses, and for other industrial uses. One way of making cotton resistant to heat is by chemically blocking some of the hydroxyl groups in the cellulose.

At present, this method provides two chemically modified cottons with outstanding heat resistance. One is acetylated cotton. The other modified cotton is cyanethylated cotton. Ironing board and commercial laundry press covers made of acetylated cotton fabric last three to five times longer than covers made from untreated cotton. The acetylated cotton does not stick to an iron and does not require special care. Moderate heat
resistance is exhibited by most easy-care or washwear cottons and by fabric treated with various additive-type chemicals, such as dicyandiamide. They are generally less expensive than the acetylated cotton but wear out sooner.

**Weather and Mildew Resistant Cotton**

Cotton exposed to conditions of high humidity and warmth is readily attacked and destroyed by certain micro-organisms (fungi and bacteria) unless they are protected by chemicals. Mildew is a common term for the fungi responsible for most cotton degradation.

Micro-organisms do not subsist on cotton itself. Instead, they secrete enzymes that hydrolyze cotton cellulose to produce water-soluble products and then feed upon the soluble material. Most of the spores from fungi do not germinate when the temperature is below 65° and the relative humidity is less than 40 percent. Bacteria can flourish and rot cotton only when it is nearly soaking wet.

Cotton is subject to degradation by micro-organisms in end uses that include tents, tarpaulins, shoe linings, sandbags, boat covers, ditch liners for irrigation, and fishing equipment. The degradation can be retarded or prevented by treatment with additive finishes, such as cooperquinolinolate, copper naphthenate, and phenyl mercury esters.

Workers in the Department of Agriculture discovered that zirconium acetate and zirconium ammonium carbonate solutions solubilize many biocides and make it easier (and sometimes more effective) to apply them to cotton. Other useful additives are pentachlorophenol and quarternary ammonium compounds. The most effective and durable treatments for cotton include acetylation, cyanoethylation, and deposition of polymers or of acrylonitrile. These agents give excellent rot resistance in sandbags, ditch liners, and other products in which the fabric touches soil.

Cotton has some natural resistance to degradation by sunlight, but it must be protected when it is exposed for long periods, as in tents, tarpaulins, awnings, truck covers, and beach umbrellas. The damage to cotton by solar radiation is largely through photosensitization. In this process, some substance in the cotton—an impurity or an additive, such as a dye—absorbs light and then makes the absorbed energy available for rupture of the cellulose molecules. These degrading effects of sunlight vary with temperature, season, latitude, humidity, and contaminants in the air.

Cotton is protected from degradation by sunlight by removing or deactivating photosensitizers. To do that, materials are used that screen or scatter light or by substances that utilize solar energy themselves without transmitting degrading effects to the cotton. Protective materials include certain pigments, inorganic compounds, and amino resins.

Pigments are the most effective and generally are inexpensive. Some of them provide outstanding protection. A weight increase as little as 2 to 4 percent can more than double the life of a fabric. Larger amounts often extend the life up to fourfold. Pigments and some inorganic compounds must be bound to fabric with a polymeric substance that penetrates the interstices of the fabric or merely coats one side, as for awnings. Fabrics protected against sunlight are also generally treated to make them resistant to mildew, rot, and water and sometimes resistant to flame.

**Stretch and Bulk Cotton**

Stretch cotton garments have become popular because of their comfort, ease of fitting, and neat appearance. Commercial methods for producing stretch goods include: slack mercerization of fabric; mechanical compaction of fabric, followed by resin finishing; elastic core yarns of spandex fiber; a blend of spandex fiber with cotton; and torque-cramp thermoplastic yarn with cotton yarn.

The slack (or tensionless) mercerization method of producing stretch cotton goods, developed by scientists in the Department of Agriculture, is inexpensive and effective. It is used for many types of outer garments, slippers, other
household items, and industrial commodities. Woven stretch fabrics are suitable for some household and industrial uses without additional chemical treatment. For use in apparel, however, a wash-wear finish is applied to produce better recovery from stretch as well as smooth drying and wrinkle resistance. Stretch knit goods, especially cotton socks, can also be made by the slack mercerization process. Such socks have all the desired qualities of cotton and also have good stretch and recovery properties.

Stretch fabrics produced by mechanical compaction followed by a resin treatment have the stretch in the warp (length) in contrast to those produced by slack mercerization, which generally have the stretch in the filling (width), although they can have both warp and filling stretch.

Fabrics produced with about equal amounts of torque-crimp thermoplastic yarns and cotton yarns may have either warp or filling stretch. Fabrics made of yarns containing a spandex fiber core with a cotton sheath or of yarns containing a blend of cotton and spandex can have warp and filling stretch. These fabrics generally contain at least 90 percent cotton, but their content of elastic spandex fiber requires that they be carefully laundered. Water for washing should be about 100°F. Chlorine bleaches must not be used, because they turn the spandex yellow or brown and degrade the fiber.

Stretch lace appears to be developing into a new and useful commodity. This is another example of slack mercerization and stabilization using a crosslinking agent. An ordinary flat lace is placed in mercerizing strength sodium hydroxide and allowed to shrink in both directions. This simple process produces a treated lace which is much thicker and richer in appearance, with the three-dimensional effect of expensive fabrics. In addition, the lace contains a certain degree of stretch which improves the comfort and durability of the fabric. Some textile manufacturers consider this property more important than the improved appearance. Crosslinked laces with shrinkage less than 1 percent, after hand or machine washing and careful drying, are produced by this process. This is important to industry because untreated lace dresses cannot be sold as washable due to the large degree of shrinkage normally encountered with lace.

Improvements have been reported in cotton knit fabric. Details of the process are not available, but 100 percent stretch cotton knit with less than 1 percent shrinkage has been claimed. The fabric has a good hand washability and can reportedly be machine-washed and dried.

Also of value to most consumers is cotton with more luster. Progress has been made; new laboratory products exhibit a desirable degree of luster, but more basic research and developmental work must be completed before we can expect to see this development in wide use.

**Oil and Water Repellent Cottons**

Water- and stain-repellent fabrics are used widely. A fabric is termed water-repellent if it resists wetting and penetration. Water-repellent fabrics are needed for raincoats, sport coats, jackets, umbrellas, and other items. Stain repellence is desired in some of these items but is especially needed for tablecloths, upholstery, and party dresses. Water and stain repellencies are imparted to cotton by chemicals that interact with the surface of the individual fibers and lower the surface energy of the fabric.

Three general classes of water repellents are those based on metallic salts and oxides, those based on polymers deposited on or in the fibers, and those based on some chemical in which there is union between the repellent and the cotton. A water-repellent fabric is different from a waterproof fabric in that its interstices are not closed, so that it is permeable to aid and water vapor. In waterproof fabrics, the interstices are filled and function like plastic films in that they do not allow free passage of water vapor and air. Waterproof fabrics and plastic films thus are less comfortable than water-repellent fabrics in garments.

An easy test for water repellency is to place a drop of water on a flat surface of the fabric. If it takes on a spherical shape, it has not wet the
surface. If it flattens out, it has wet the surface, and the fabric is not water repellent.

Most water-repellent fabrics are also repellent to waterborne stains and spots, such as those caused by coffee, tea, fruit juices, and soft drinks. The repellents containing silicones or fluorocarbons are most effective against waterborne stains.

Fabrics containing fluorocarbons may also be resistant to greasy stains. A test is to place a drop of cooking oil on the surface of the fabric. If it takes on a spherical shape, the fabric has repellency to grease. Oily and greasy products should be removed from a garment by blotting with an absorbent cloth. Rubbing causes greater penetration and makes removal difficult.

Water- and stain-repellent finishes applied to fabrics used in garments are durable to at least three to seven mild launderings or drycleanings. Sometimes silicone-finished garments appear to have lost their water repellency during laundering, but generally it can be revived by a more thorough rinsing to remove all the detergent. Ironing also helps revive the repellency. The water and stain repellents generally used on upholstery fabrics are not durable to repeated laundering, however.

**Wash-Wear and Durable-Press Finishes**

In about 1930, J. T. Marsh and colleagues found that cotton and rayon fabrics could be treated with phenol formaldehyde adducts or with urea formaldehyde adducts to impart wrinkle resistance and smooth drying properties. These treatments were slow to be accepted because they caused a substantial loss in the breaking and tearing strength of fabrics. Since the early finishing agents readily formed insoluble polymers or "resins" when heated in bulk as in a beaker, they became known as resin finishes. The quantity of cotton fabrics treated with the resin finishes began to increase rapidly in about 1956. By this time, methylolmelamines were in common use for imparting wrinkle resistant properties. Phenol formaldehyde adducts were never used to any great extent and were completely discontinued shortly after their introduction in 1930. Today, over two and a quarter billion yards of cotton fabric are treated annually with various agents to impart wrinkle resistant properties. It is now known that the so-called resin finishes actually react with the cellulose and crosslink molecules within the fiber. This, coupled with the fact that many of the chemicals used to impart wrinkle resistant properties do not form water insoluble resins, has led to the use of the term "cross-linking agents" to describe the finishing compounds.

**Durable Press Processes**

Durable press cotton goods exhibit very high degrees of wrinkle resistance, smooth drying, and shape-holding properties and may contain durable creases. There are two general processes for producing durable press goods. One is a pre-cure technique, and the other is a post-cure technique. In the pre-cure process, fabric is impregnated with a crosslinking agent, a catalyst, and various auxiliary agency, dried and cured at an elevated temperature much like that done in the preparation of wash-wear fabrics. More crosslinking agent is generally used in the durable press technique than in the production of wash-wear fabrics. In the post-cure processes the crosslinking agent and catalyst are applied to the fabric and dried. The dried fabric is made into garments and subsequently cured. There are several variations to this process, and the principles for imparting the wrinkle recovery and shape-holding properties differ substantially. Garments treated with durable press finishes can be worn, washed, and tumbled dried in a home laundry without the necessity of ironing.

Before ending this talk I would like to mention something about labeling. Proper labeling of garments is a necessity today because of the wide variety of fibers and treatments being used today. [Several examples of improper labeling were shown by Mr. Drake.] The Government is doing something about care labeling today.
It is a pleasure to welcome you to Louisiana, and it is delightful to see so many friends—and you must all be friends to get up for an 8:00 a.m. breakfast meeting on "Setting the Stage for Research."

A variety of personal experiences, as well as the experiences of friends within and outside the government, has led me to think long and hard about our research efforts, so I must say I appreciated this morning’s assignment. My personal experience came when I found myself in the position of defending home economics research before Congressional committees and the Office of Management and Budget. The experience was frustrating. I was unable to point to clear-cut, well agreed upon findings in many areas that had received support and justified additional funding. This leads me to comment on one of my current concerns—comparability of research. How widely can we generalize?

To illustrate the problem I would remind you of the graduate student pouring through the literature, summing up results in that area for a ten-year period, covering a large number of studies and unfortunately coming up with what has come to be known as “Berelson’s findings.” Berelson has caustically pointed out that research findings in the behavioral social sciences typically come down to this: (1) the problem is more complicated than originally thought; (2) a larger sample is needed; and (3) more research is needed.

There have been some areas of research in which giant strides in comparability have been made, in which changes have come very rapidly. In other areas we have moved glacially. Paradoxically, it seems as though these are often the areas in which the public need is greatest. There are many reasons why this happens. Research findings may be usable for application to problems for program development, for services, but a critical use of research findings is to compare them with findings from other research. Cross-research and cumulative research analyses are meaningful only if there are some bases for comparability—i.e., the various research studies are using comparable subjects, comparable definitions of variables, comparable measurement instruments. As any researcher knows, it is very easy and often more productive for the researcher’s own purposes to describe and define and measure with new terms and new instruments created by the researcher. Probably the concern for imposing some limits on researchers’ creativity accounts for the fact that few have addressed the problem of comparability. Very often the problem is at the level of sample description and sampling. In some cases the samples aren’t big enough or don’t represent populations to which one needs to generalize. There are many studies, yet the results can’t be added up. The main reason is that there isn’t sufficient information to make it possible to say that the samples are similar or in what ways they differ.

Another problem seems to lie in the area of measurement. Very often researchers develop their own measures because that’s a way to get points for being creative, not because the existing ones are inadequate. Then they neglect to use any measures that others have used in the past so that the relationship of their work to that of others can be checked.
The other problem lies in the lack of collaboration. Even if there isn't a need for large-scale collaboration, some fields could benefit from small-scale, more informal and flexible kinds of collaboration. When people are aware of what others are doing they at least have the opportunity to align their methodology, instrumentation, or samples so as to assist comparability.

Now another point to be brought out is that comparability is very specific to research in given areas. There are areas in which exactly the opposite is the problem, areas where people have been doing the same thing for so long that the research has become stereotyped. They have been using the same paradigms, the same experimental procedures, and because of this they're not getting anywhere. By way of contrast, very often there is an area of research in which very few investigators are involved who are really at the leading edge of a new field, and just getting started. In this case it is difficult to see the direction that the research will take. There is no point in talking about comparability and generalizability in such an area. However, constant scrutiny of research proposals for duplication and coordination will aid in moving toward comparability and generalizability.

Congress and the public are becoming increasingly skeptical about research activities and are demanding greater accountability in research. This growing disillusionment is aggravated by a general failure of scientists to communicate the outcome of their research to these non-scientific audiences. While researchers are usually trained to write articles for scientific journals, most are neither able nor willing to write reports that are both clear and compelling to non-scientists. Steps in this direction will have to be undertaken, however, if the climate for research is to improve.

Researchers are being called upon more and more to justify how findings will be useful in contemporary society. We have been indicted on many occasions for not being sufficiently future oriented in our research to anticipate problems and find solutions. What are the emerging issues? Where can the greatest contribution be made in the next five years?

Our decisions with respect to priorities are always going to be complicated by the fact that our clientele are extremely diverse as to occupation, educational attainment, economic resources at their disposal, and a host of other characteristics. The job is complicated, also, by the fact that what appears most urgent today may be superceded by the new urgencies of tomorrow.

Our decisions on research priority must always represent a balance between what we, as professionals, see as knowledge needs five, ten, twenty, or even fifty years in the future, and what those who see and need our help want from us tomorrow, next week, and next year. That is just another way of stating that we must always maintain a balance between basic and applied research. To forget one at the expense of the other is to invite future trouble. We won't get funding for our futuristic basic research needs unless we provide help today, tomorrow, next week, and next year for those who need it. And similarly, when tomorrow arrives, unless we have done the basic research so that we have "viable research currency" in the "knowledge bank," we will be denied support by those who will be demanding answers five, ten, twenty, or fifty years from now. We need a careful balance between in-depth, on-going "thinking" type discussion and operational research.

Turning next to a discussion of funding for the accomplishment of quality research in home economics, I am going to be very candid in my observations. We are not, in our respective institutions, achieving very substantial progress toward overcoming what I perceive to be our greatest obstacles to progress. A major reason for the paucity of funding for home economics research is that not enough projects are as well conceived or as well designed as they need to be in the scramble of competition for always limited resources. Furthermore, the lack of methodological expertise evidenced in home economics research proposals too often suggests that neither the design which is too broadly written and conceived nor the proposed analyses of the data will be adequate to achieve stated goals. In making that observation, I wish to be the first to proclaim the fact that we are already well on the way to overcoming the several deficiencies to which I have made reference.
Part of the difficulty facing us is the fact that there simply are not enough graduates with research orientation including adequate course work background to provide us with a fighting chance of achieving in the immediate future the level of expertise that must be achieved in order to justify the expanded level of funding that all of us seek. The important matter for all of us is to recognize that we do have problems such as unrealistic goals and lack of critical mass. Rather than being defensive about our problems, we must individually improve our own research capabilities and become better role models for our undergraduates and graduate students.

The encouragement that faculty members give individual students appears to be a crucial factor in arousing student interest in graduate study and research. Another way in which students have become interested in research and competent in carrying out certain specific techniques has been through employment on research projects. Students have sometimes served as subjects for research. When this is done in a way so that the students acquire some understanding of the purposes and procedures of the research and when it is a successful experience, students gain an appreciation of research and an interest in further participation.

At this point in my remarks, I think it is reasonable for me to ask myself—and for me to put the question to you—what are we doing about the inadequacies that we now have in our research programs? Are we really scrutinizing each and every research project, both new and continuing, and asking ourselves, “Is this really the best that we can do? Is this problem oriented? Are the objectives of this project moving in the direction of where the real excitement of the future is to be found? Is the outcome of this particular project ‘where it’s really at,’ relevant?” I hesitate to admit it, but I fear that if some of the projects currently being pursued were really put to the “acid test” we might find ourselves admitting that we had allocated hard-to-come-by funds on projects which have only minimal chance of advancing their disciplines or serving adequately the public on whom we depend for support. Well, you may say, if that be true, what, realistically, can we do about it? I am strongly of the opinion that the achievement of quality research demands more frequent, more intensive, and more frank review than it has received in the past. It seems to me that we must try to reorient the efforts—to get excited about research and to get involved in worthwhile projects.

If ever there was a field of endeavor in which an individual has to be involved if he or she is going to do any good at it, that field of endeavor is research! To be successful in research an individual must literally eat, sleep, think, drink, feel, and believe in what he or she is doing on a twenty-four-hour-per-day basis! It is for that reason that all of us must ask ourselves whether we are doing what we ought to be doing to inculcate a research attitude, a research mentality. We must do a better job of bringing in top-flight scientists to present seminars, and we must make greater use of bright young post-doctoral students. Involvement, stimulation, and dedication are the ingredients of a productive research environment. I am wondering how many of you devote 10 percent of your time to conducting experiments on strictly “blue sky” ideas. How many ideas that are really “far out,” mind-stretching, and probably 90 percent doomed to failure are being explored? Do you have any such work under way? It seems to me that every one of us ought to have 10 percent of his or her research time each year devoted to strictly “blue sky” ideas conducted on a mini-basis and done either with simulation or in some other way that would make it possible for us better to determine profitable leads for our future research endeavors.

The foregoing is not meant to imply that there is no such research being done, but the amount is small in relation to the need; and much of it is rather pedestrian, a following along behind, picking up the ideas someone else has generated rather than going out in front producing new ideas.

Good research demands expert knowledge as a starting point. It is a mistake to think that one must have a lot of money, space, equipment, and help to do research. The real requisite is the cognitive process. One of the corollaries of Parkinson’s Law is that when an enterprise
acquires glossy, modern physical facilities, it is already dead. The major requisites for research include a thorough and comprehensive grounding in what is already known about one's own particular field, a sense of personal responsibility and commitment, and curiosity, the urge to know why things happen. The love of inquiry is what carries a creative researcher to a level of high competency. The powers of analysis and accumulation emphasize the ability to acquire, evaluate, and retain knowledge in an orderly manner. The most complex and productive laboratory in the world is the human mind, and it has tremendous powers of assimilation of experience in all its forms. Analysis and accumulation become a way of life, strengthened by education and training under conditions which question hasty or partial answers to difficult questions and which demand an organized and responsible consolidation of knowledge. The interplay of ideas and approaches from many fields of learning and human experience enriches and strengthens the researchers' resources. The freedom of mind and spirit which enhances intuition must be preceded by and followed by sustained concentration: before, to prepare oneself, and after, to distill and redistill, to test and retest the new ideas which intuition has procured. The testing of ideas may be reinforced by the anticipation of criticism by others, but for the researchers it involves a sustained quality of self-criticism as well.

Generating interest in research involves consideration of research conducted by others as well as interest in conducting research. It also includes interest in research as a source of new knowledge, interest in utilizing research wisely, and interest in developing research abilities.

Many in this audience are familiar with the scope of textiles and clothing research. For those of you who have little or no opportunity to participate in research, the rest of this morning's program will give you a glimpse of some projects and clues to current trends. I am sure you will find examples of research that is timeless and timely.
A multi-part study was begun during the spring of 1973 to determine the effect of perceived source/receiver similarity on the acceptance of information concerning women's fashion apparel items as communicated by sources who varied in similarity to the receivers. Results of the first two parts of the study indicated that perceived characteristics of the sources of fashion information were underlying determinants of source effectiveness. The third part of the study was conducted to help understand the determinants of person perception.

In part three, 700 men and 700 women students anonymously rated 28 photographed college women on 150 descriptive adjectives. Twenty-five men and twenty-five women rated each photographed woman. The adjective ratings were factor analyzed using a principle component analysis, and factors of highly loading adjectives were compiled.

Male subjects categorized the photographed women using seven factors (87.7 percent of variance), while only five strong factors (82.7 percent of variance) were found for the female subjects. The strongest factor for both male and female subjects was labeled "reliable-proficient" and included descriptive adjectives such as responsible and intelligent. Descriptive adjectives concerning fashion and personal appearance loaded highly in factor three (visual-stimulant) for both groups of subjects. The male subjects associated personal appearance and the use of fashionable clothing with sexiness and stimulation. The female subjects associated the use of fashionable clothing with class and sophistication. Both the male and female subjects included the words "attractive" and "classy" in the visual-stimulant factor. Other factors were labeled provocative-irritant, jovial-active, independent-innovator (male), traditionalist (female), zealous-competitor (male), and naive-innocent (male).

A fourth part of the research will be the study of influence using the photographed women as sources of fashion information.

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Men's Perceptual Awareness and Acceptance of Fashion

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The purposes of this research were (1) to relate selected measures of (a) men's perceptual awareness of current fashions and (b) their acceptance through purchase of current fashion, to age, education, occupation, and income, and (2) to relate the above to (a) men's self-perception of their planned and impulse buying and to (b) their use of five sources of knowledge of current fashions.

To measure the above, a three-part instrument was devised. It included (1) photographs of fashions to be judged on a semantic differential-type scale to measure awareness, (2) a list of twenty current fashion items to be checked for numbers purchased between January 1, 1971, and June 23, 1973, to measure acceptance, and (3) a questionnaire to measure self-perceptions of planned and impulse buying and the extent of use of source of fashion information.

The randomly selected sample was comprised of 120 men from Blacksburg, Christiansburg, Radford, and other areas of Montgomery County, Virginia. The age range was twenty to seventy-six. Testing was performed during May and June, 1973.

A test-retest was used for reliability, and correlations were computed for each measure. The instrument was found to be reliable. Pearson Product-Moment Correlation was computed to test the associations among all of the variables under study. A stepwise multiple regression correlation coefficient was computed to test the significant effects of the combined group of independent variables on fashion awareness, fashion acceptance, self-perception of shopping behavior, and self-perceptions of uses of source of fashion knowledge.

As a result of the analysis of all the correlations, it was concluded that fashion awareness is not a matter of education or acceptance but correlated positively with income and negatively with age. Acceptance of current fashion items correlates significantly with education and with income and negatively with occupation. Age is not a significant factor. Thus, of the four demographic variables, the most influential were income and education. The aged were no less interested than the young in fashion and its foibles, and they were equally aware or accepting of it. Since income is often determined by one's education and occupation, and since status in an occupation is often a matter of age, these four independent variables were understandably highly correlated, but together made up only 31 percent of the factors affecting awareness and acceptance of changes in fashion. Although the use of selected sources of information on fashion trends was generally limited, the most effective source was observing store window displays. Magazine reviews were singularly ineffective as a source of fashion awareness but highly significant for acceptance of current fashions.

Both planned and impulse buying—i.e., total buying—decreased as age increased. Yet, generally, age and income are highly correlated. Perhaps manufacturers and retailers need to cooperative in a special approach to the older male consumer.

*Ph.D. dissertation, Utah State University.
Expectations for Appearance, Personality Traits, and Occupational/Family Roles of Men and Women*

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The terms "masculinity" and "feminity" are summarizations of actions and attributes deemed appropriate for men and for women respectively. These actions and attributes, because they are considered appropriate and elicit social approval when exhibited, are collectively called "expectations for behavior." Until recently, few people questioned that appropriate actions and attributes for men and for women are (or should be) different. However, proponents of social equality have made a case for the abandonment of sharply different expectations that lock both men and women into behaviors which are less than optimal for their personal development. Mass media coverage suggests that a loosening up of stereotyped behavioral expectations is in progress. However, little research has been done to corroborate this indication.

Objectives

The extent to which a group of husbands and wives expressed rejection of or continuing acceptance of stereotyped expectations for behavior of men and women and whether these men and women would differ significantly in their expressed expectations were explored. Three aspects of expectations for behavior—those concerning masculine and feminine appearance, those concerning personality traits, and those concerning occupational and family roles of women—were investigated. A stratified random sample of 81 wives and 76 husbands filled out mail questionnaires containing Likert-type scales.

Results

As groups, both men and women tended either to reject stereotyped expectations for masculine and feminine appearance or to display a mix of rejecting and non-rejecting responses. However, more than half of both men and women felt that slacks for women are inappropriate for some occasions and that short hair for men is more masculine than shoulder length hair. Men and women differed significantly in one instance: more men felt that long hair on women is more feminine.

Both husbands and wives as groups rejected several traditional expectations for women's occupational and family roles. However, expectations having to do with actually being a wife/mother tended to elicit a mixture of rejecting, accepting, and uncertainty responses, and were interpreted as reflecting ambivalence on certain aspects of women's occupational and family roles.

Male-female differences were more evident in relation to expectations concerning personality traits; husbands tended to accept the stereotypes more often than wives. Significantly more husbands than wives thought that women are more
emotional than men, men are naturally more competitive than women, men and women are unequal in being able to think logically, and women are more artistic.

Conclusions and Implications

Differences between husbands and wives in expectations for behavior of men and women were strongly evident only in relation to personality traits, where husbands' responses tended to be more traditional than wives' responses. Perhaps men place greater social value on traits related to occupational success, which they in turn associate with men.

The finding of a range of expectations from traditional to ambivalent to non-traditional for the groups of both husbands and wives likely reflects the continued flux in what American women are and do. Although several traditional expectations for appearance of men and women were rejected, pants for women and hair length, especially for men, still appear to have some salience as symbols of masculinity and femininity. Other factors, such as grooming behaviors and colors, were rejected. Longitudinal research could distinguish between fashion change and a more fundamental change—that is, determine more certainly whether fewer appearance symbols of masculinity and femininity exist, or whether old symbols are replaced by new ones.
A vital concern of home economists, consumer educators, and communications specialists is the identification of consumers' informational needs and information seeking behaviors in the selection of clothing and fashion products. The primary purpose of the research reported in this paper is to examine two specific types of consumer information processing behaviors which are related to this concern—(1) the types of informational sources which are consulted by consumers in the process of clothing decision-making, and (2) the types of informational contents which are perceived by consumers as being important to their clothing choices. A second purpose of the research is to identify differences in information processing among consumers having contrasting cognitive (attitudinal) orientations toward clothing and fashion products.

### Procedure

The research involved the development and administration of a mailed self-administered questionnaire to a sample of 2,000 randomly selected adult women residing within the state of Indiana. For sample selection, a stratified random sampling design was used, with all Indiana households defined as the universe for sampling. An eight-page questionnaire including 147 scaled measurements was developed and pre-tested. The questionnaire was administered through first-class mail, with two follow-up contacts directed to each subject to maximize questionnaire returns. A total of 989 completed and usable questionnaires was returned, resulting in a response rate of 55 percent after adjustment for non-deliverable questionnaires.

Dimensions of reliability and criterion validity were measured by a test-retest methodology. Data were analyzed using a combination of univariate and multivariate statistical methods.

### Results

The analysis of types of informational sources which are consulted focused on twenty-one specific types of sources in four general categories: (1) mass media sources, (2) personal sources, (3) retailing (marketing) sources, and (4) consumer educational sources. Analysis of informational contents which are viewed as important by consumers included twenty-three types of information in four general categories: (1) information on current styling and fashion trends, (2) information on product characteristics, (3) suggestions for wardrobe planning and selection, and (4) techniques for home sewing of clothing. These analyses identified substantial differences in consumers' information processing behaviors, both in the sources and contents of information which are used in making clothing decisions. It was also found that information seeking and processing behaviors may be differentiated across sub-groups of consumers having widely divergent cognitive orientations toward the consumption of clothing and fashion products.

### Implications

A practical benefit of the research is in providing consumer specialists with empirically-based...
information for use in planning consumer informational programs directed to the specific needs of different target audiences. More specifically, the findings of the research have important implications both for the design of consumer educational programs and for the development of retail marketing strategies directed to unique market segments. Only with empirically-based information on how consumers select and process information can such communicators develop informational programs which will reach and influence their intended audience.

This investigation also contributes to the growing body of theory and research on consumer information processing. Specific contributions are in the area of development of multivariate profiles of interactions between consumers' clothing orientations and their related patterns of clothing information seeking and decision making.
Interpersonal Attraction Among Strangers at a
Function of Symbolic Cues of Clothing and Appearance*

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Byrne's (1971) attraction paradigm is currently being tested to determine whether similarity of appearance (clothing, make-up, hairdo, etc.) in combination with information concerning another person's attitudes affects interpersonal attraction. In the study female volunteers are instructed that they are participating in a cooperative sewing session. Each subject is randomly assigned to one of twelve experimental conditions based on three variables: similarity of attitudes (similar-different), similarity of dress (similar-dissimilar), and attractiveness of dress (attractive-neutral-unattractive). In the initial session subjects are photographed and complete a modified version of Byrne's (1971) Survey of Attitudes. Between sessions independent judges match each subject photograph with a stimulus photograph representing a bogus sewing partner. The bogus partner is shown in clothing either similar or dissimilar to the subject's and chosen from either an attractive, neutral, or unattractive set of stimulus photographs. A stimulus Survey of Attitudes for each subject which will be either similar to or different from that of the subject is also created. In the second session, subjects are presented with the stimulus Survey of Attitudes and informed that it has been completed by the person pictured in the stimulus photograph. Subjects are told that this person is to be their partner in a sewing session. They are asked to complete Byrne's (1971) Interpersonal Judgement Scale based on the stimulus information and then debriefed. The following hypotheses derived from Byrne's paradigm are being tested:

1. Similarity of attitudes, similarity of dress, and attractiveness of dress effect judged interpersonal attraction.

2. Similarity of dress has a greater effect on judged attraction than attractiveness of dress.

3. Similarity of attitudes has a greater effect on attraction than similarity of dress.

This research provides a measure of the relative importance of clothing and appearance to interpersonal judgements based on minimal information.

Effects of Clothing Style Differences on Peer Perception*

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University of Tennessee, Knoxville

The purpose of this research was to examine the extent to which clothing style differences influence the degree of positiveness of male and female perceptions of an unknown female peer. This study was designed to answer the questions: (1) To what extent do differences in clothing style influence the positiveness of peer perception? and (2) To what extent does sex of the observer influence the positiveness of peer perception?

The subjects were 120 college students, from which four groups of 15 males and 15 females were assigned randomly to view and respond to each of the costume conditions. Photographs of a female peer wearing two in-fashion and two out-of-fashion costumes were used in connection with a semantic differential to measure the subjects' perceptions of the model in terms of warmness, sociableness, and friendliness. A two-way analysis of variance and the $E^2$ correlation ratio were used to determine statistical significance and conceptual importance.

The data revealed that the two in-fashion styles were perceived much more positively than the two out-of-fashion styles. With the exception of one costume, the males rated the costume conditions slightly more positively than did the females; however, there appeared to be more similarity than difference due to sex of subject. Neither sex of subject nor the interaction between the variables was statistically significant. On the other hand, the clothing variable was statistically significant as well as conceptually important in that it explained 51 percent of the variance in this experiment.

While tentative, the results suggest the following generalizations: (1) Clothing style affects the degree of positiveness of peer perception—specifically, in-fashion styles are viewed more positively than out-of-fashion styles by college students; and (2) College males and females are similarly influenced by a female peer's clothing style. It is thus concluded that clothing style differences do affect the degree of positiveness of perception by college peers in an initial contact situation.

*Part of larger study under direction of Dr. R. H. Nagasawa at Arizona State University.
Clothing Attractiveness and Personal Attractiveness

Related to Social Acceptance of Adolescent Boys and Girls*

Anna Creekmore, Professor of Clothing and
Lois Florkey
Michigan State University

In this investigation, positive associations were hypothesized for high school boys and girls between clothing attractiveness and personal attractiveness and five measures of social acceptance: presidency, officerships, number of organizations joined, social participation, and scholastic standing.

During a pretest procedure, the most reliable of three media (movies, photographs or slides) was determined, and the most reliable and valid observers to use for assessing personal and clothing attractiveness were selected. The six observers rated each of the 241 subjects made during the collection of the data for Michigan Project 1020 in 1968. Each subject was rated from one to ten according to a planned procedure which allowed for the halo effect in judging the subjects on both clothing attractiveness and personal attractiveness. The measures for clothing attractiveness and personal attractiveness were unique to the present study, while the five measures of social acceptance were taken from the larger project. Pearson product-moment correlations were the major statistical analysis used in the study to determine the associations between the variables.

The results of the study showed that a positive association existed between clothing attractiveness and personal attractiveness. Social participation and number of organizations joined were also positively associated to clothing attractiveness and personal attractiveness for both boys and girls. A positive association between scholastic standing and clothing attractiveness existed only for boys. However, scholastic standing was positively associated to personal attractiveness for both boys and girls. Officerships were positively associated to girls' clothing attractiveness or to boys' clothing attractiveness and personal attractiveness. No significant associations were found between presidency and clothing attractiveness or personal attractiveness for either boys or girls.

*Part of Michigan 1020.
The purpose of this study was to investigate the relationships between four clothing variables (clothing mode awareness, clothing mode conformity, prestige clothing, clothing attractiveness) and three measures of leadership (representational leadership, organizational leadership, and composite leadership). A positive relationship was proposed between the variables for both boys and girls.

A questionnaire and 16 millimeter motion pictures were selected as a means of data collection. The data were collected along with that of a larger interregional project from a population consisting of a sophomore class of a central Michigan high school containing 121 boys and 110 girls.

Conformity to the clothing mode and clothing attractiveness were determined by an analysis of the filmed subjects. Illustrations of clothing items in the questionnaire were used to measure an individual's awareness of the clothing mode. To determine what items of clothing were considered prestigious, the subjects were asked to designate the items in different dress categories which each considered to be "in" or "out."

Information from the questionnaire provided a means of measuring three types of leadership. The first, representational leadership, was a measure of whom the students would most like to represent them as leaders. The second, organizational leadership, was a measure of the amount of participation in the formal organizations of the school system. Composite leadership, the third measure of leadership used, was a composite measure based on status characteristics considered important for the attainment of leadership or status.

Stepwise multiple regression and correlation coefficients were the major forms of statistical analysis used to determine the relationships between variables.

The findings of this study showed that clothing mode awareness was a significant predictor of representational leadership and composite leadership for both boys and girls. Clothing mode awareness was also a significant predictor of organizational leadership—but for girls only. Clothing attractiveness was a significant predictor of representational leadership, organizational leadership, and composite leadership for boys. For the girls, clothing attractiveness was a significant predictor of composite leadership only. Prestige clothing was a significant predictor of composite leadership for boys only.

Since the data revealed a definite relationship between clothing and leadership, the proposed theory that the leader uses clothing to reflect and extend his influence within the group and is recognized as a leader by others in part because of his clothing cannot be discounted.
Consumer Evaluation of Water Quality Before and After Installation of a Reverse Osmosis System*

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Graduate Research Assistant

and

Coila Janeczek
Associate Professor
North Dakota State University
Fargo, North Dakota

Objectives

The major concerns of the study were evaluating consumer attitudes towards water quality, evaluating water quality according to the United States Public Health Service Standards, and analyzing the economic influence on individual families and the community of Leeds, North Dakota, before and after installation of a reverse osmosis system.

Procedures

Personal interviews were conducted with representative samples of Leeds and the control towns of Glen Ullin and Turtle Lake. Chemical and bacteriological analyses were completed on all wells. Personal communications were utilized in the evaluation of the economic impact.

Conclusions

Conclusions reached were as follows:

1. Total dissolved solids were reduced from 4,200 mg/l to below the recommended 500 mg/l.

2. Specific characteristics that were improved after treatment were fixed solids, hardness, sodium, electrical conductivity, bicarbonates, chlorides, sulfate, fluoride, and pH level.

3. Users of the treated water expressed an increase in satisfaction with general water quality, water quality compared to neighboring towns, appearance of plumbing fixtures, white fabrics, dishes, cookware, and cooking utensils, appearance and taste of food and beverages, use of water for washing hair and bathing, and hand or feel of fabrics.

4. Less money was spent on skin and hair preparations with use of the treated water.

5. Municipal water consumption increased after installation of the reverse osmosis system.

Implications

Implications of the study are important to the quality of life for the family and the community. When the quality of water has been improved, families may experience the satisfaction of using

*Research conducted for M.S. degree.
the water for all purposes, less costly repair bills, convenience in not having to haul water, home improvement, and better health. Changes that may occur in the community as a result of improved water quality include an influx of new people, a more attractive community, an increase in new homes being built, an improvement in recreational facilities, and an overall pride in the community.
Clothing-Related Thermal Burn Injuries and
Deaths in Nebraska for Fiscal Year 1975*

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and
Joan Laughlin, Associate Professor
Department of Textiles, Clothing and Design
University of Nebraska-Lincoln

Objectives
Viable statistics are necessary to justify the pro-
mulgation of flame retardancy standards for
clothing by the Consumer Product Safety Com-
mission. The purpose of the study was to compile
such statistics by determining the number of
deaths and the number of severity of
clothing-related thermal burn injuries for the pop-
ulation of Nebraska for fiscal year 1975.

Results
The study was endorsed by the Nebraska Hospital
Association, and 117 hospitals, out of a total of
119, participated in the study. Seven hundred and
seventeen burn injury questionnaires were re-
ceived, and 160 clothing-related thermal burn
injuries were categorized by age and sex of the
victim, day of week, time of day, season of year,
and location of the burn accident, source
of ignition, and the first fabric item to ignite.
Comparisons were made between the finding and
national data—Flammable Fabrics Accident Case
and Testing System (FFACTS), National Elec-
tronic Injury Surveillance System (NEISS), and
National Household Fire Survey.

A total of 21,917 clothing-related thermal burn
injuries were projected for the population of the
United States, based on the injuries reported in
Nebraska. This figure falls far below the previous
estimates of 150,000 to 250,000 fabric-related
burn injuries reported by HEW.

Implications
If Nebraska data were used to make a recommen-
dation for or against a standard for general wearing
apparel, the results of the study would not support
the inclusion of pajamas, nightgowns, robes, and
housecoats in a new standard.

*Research conducted as Experiment Station Project 94-007.
The Effect of Stain Removal Treatments on FR Cotton Fabrics Exposed to Cheatomium Globosum, A Standard Mold

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The University of Tennessee
Knoxville, Tennessee

and

Joan Bare, Instructor
Miami University
Oxford, Ohio

Objectives
To establish the effect of mold on the flame resistance of selected flame retardant cotton fabrics and to determine whether mold stain could be removed with conventional stain removal treatments. Underlying questions that guided the research were (1) to what extent are flame resistant cotton fabrics subject to mildew damage, and (2) what consequences result if consumers attempt to remove mold stain from these fabrics?

Procedures
Variables included three flame retardant finishes—THPOH-NH₃, Pyrovatex, THPC-Urea—a pure mold culture of Cheatomium globosum (one of the two most common organisms causing mildew), five stain removal treatments—hypochlorite bleach, sodium perborate bleach, lemon juice and sunlight, solvent, and concentrated detergent. Evaluation was by subjective and objective ratings using a panel of judges, Hunterlab Model D25D2 Color Digital Difference Meter, and flammability test Standard DOC-FF-3-71. Data were analyzed by ANOVA and Duncan's New Multiple Range.

Conclusions
Inoculation with mold media produced mildew stain of varying intensity on the three flame retardant fabrics when they were incubated together under appropriate conditions. Chlorine bleach was the most acceptable treatment for removal of stain but was detrimental to flame resistance of the THPC-Urea treated cotton after one treatment and of THPOH-NH₃ after five applications of treatment. Sodium perborate was next in effectiveness with no detrimental effects to flame retardant characteristics. However, neither of these two methods nor the other three treatment methods removed sufficient stain for specimens to be judged acceptable for children's sleepwear.

Implications
Judicious use of stain removal treatments is recommended in removal of mildew stain from FR treated cottons because resulting stains are tenacious. Restoration of fabric appearance to an acceptable level is not only difficult but may ruin the effectiveness of the flame retardant finish.

*Funded by Agricultural Experimental Station.
The Effects of Laundering on Constructed Garment Sections When Fusibles Are Used*

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Texas Southern University

The purpose of this study was to determine the effects of laundering on constructed garment sections when fusibles are used. The researcher administered a questionnaire to determine how secondary and post-secondary teachers of clothing construction in the Houston Public Schools perceived the use of fusibles. Also, a laboratory experimentation was conducted to determine how various fusibles perform in a polyester double knit and a cotton-polyester woven fabric (both being wash and wear) under standard testing methods. The findings were categorized and tabulated according to the type of fusible used, method of laundering, appearance properties of the garment section after application and laundering. The method of analysis of data was primarily descriptive, using percentage coefficients to describe and compare the categories. Ninety percent of the respondents had experienced the use of fusible interfacing and 73.3 percent of the fusible webbing. Fewer changes took place in the polyester double knit regardless of type of fusible used with the fabrics listed; this finding was substantiated in the laboratory testing. The greatest changes in appearance properties occurred in the single knits and the mediumweight and lightweight woven fabrics. The laboratory testing showed outward changes in all collar specimens constructed of woven fabric after the first laundering process; however, after six launderings all specimens (knit and woven) were rated as having alterations in aesthetic-appearance properties. The woven collar specimens showed the greatest amount of change. Seventy-seven percent of the respondents expressed the need for a proven list of fabrics that work well with fusible webbing and a list of those to avoid. Fifty percent felt the need for a chart of fabrics which work well with various fusible interfacings. From the data collected, it seems feasible to postulate that research and experimentation to determine the effect of variables on the performance of fusibles, to delineate possibilities and limitations, is needed.

*M.S. thesis.
Wetting Properties of Radiation Polymerized Hydrophilic finishes on Polyester Fabrics

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The major purpose of this research was to study the changes in wettability of polyester fabrics due to the crosslinking by electron beam irradiation of hydrophobic materials on the surface.

Four monomers were selected (from those variable commercially) to improve hydrophilicity of fabrics. The four were capable of being polymerized by free radical, radiation-initiation reactions. The research was divided into two parts: (1) the preparation of the hydrophilic polymers on the fabric and (2) the evaluation of the wetting properties of the fabrics.

Aqueous solutions of each of the four monomers alone and in combinations were padded onto the fabric. The fabrics were dried at low temperatures and irradiated in a nitrogen atmosphere in the electron beam. Dose curves were made to determine the effect of dose on crosslinking.

The wetting properties of treated and untreated polyester fabrics were evaluated by the following methods: moisture regain, drop absorbency, vertical wicking, and centrifuging.

One monomer, 2-acrylamido-2-methyl propane sulvonic acid (AMPSTM), could not be crosslinked by irradiation in the pure state. The other three monomers shows 50 to 80 percent crosslinking at doses as low as 5MRADS. The most successful combinations of monomers contain AMPSTM with at least one other monomer.

The percent moisture regain for polyester fabrics was increased from 0.6 percent to 1.8 percent with a 10 percent add-on of combinations of one or more monomers with the AMPSTM.

The drop absorbency test gave the lowest rate of wetting to crosslinked co-polymers which contained AMPSTM. The combination containing the greatest amount of AMPSTM had a wettability of five seconds.

Water transport curves made using the results of the wicking test reveal that the mode of water uptake is swelling. The water concentration gradients made using the same data show little or no water reaches the top of the sample of the "best" wetting samples even after forty-eight hours.

The water holding capacity of these hydrophilic finishes was demonstrated using a modified technique for centrifuging at high speeds. The high swelling finishes had water holding capabilities of 4,000 percent to 8,000 percent of their weight.

The high swelling finishes prepared in this research may find use in the disposable diaper market or in the bandage area of the medical field. Perhaps with further study and by controlled add-on and amount of swelling component of the crosslinked co-polymers, these findings will be useful in normal apparel wear. The results show there are several possible finishes for changing the wetting properties of fabrics made from hydrophobic fibers which can be applied using radiation from the electron beam.


†AMPSTM is a trademark of the Lubrizol Corporation, P. O. Box 3057, Cleveland, Ohio 44117.
A Comparative Study of Ring Spun and Open-End Spun Yarns in Jersey Knit Fabrics*

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and

Esther R. Broome, Professor
College of Nutrition, Textiles, and Human Development
Texas Woman's University
Denton, Texas

The purpose of this study was to determine the effects of yarn number and fiber content upon the performance of 100 percent cotton and 50/50 cotton-polyester jersey knit fabrics composed of open-end and ring spun yarns in sizes 16s and 22s, respectively. This investigation was divided into two phases. One phase concerned an evaluation of laundered fabrics, while the others involved an evaluation of worn and laundered T-shirts constructed from the experimental fabrics. Throughout the study, initially and after five, fifteen, and twenty-five laundering periods, the non-worn fabrics were evaluated for pilling resistance, abrasion resistance, bursting strength, wicking, dimensional stability, compression and recovery with regard to thickness, and moisture regain. The T-shirts were evaluated with respect to those same factors only at the completion of twenty-five wear and laundering periods, with the exception of the dimensional stability measurements, which were taken after five, fifteen, and twenty-five wear-laundering periods.

When the physical characteristics of the non-worn and worn fabrics composed of open-end spun yarns were compared with those of ring spun yarns, the following results were obtained: With respect to pilling resistance, the open-end spun cotton and cotton-polyester yarns in sizes 16s and 22s proved to be superior to the ring spun yarns of the same size and fiber content. Due to strength deficiencies of the open-end spun yarns, the cotton and cotton-polyester fabrics produced by this spinning method and composed of sizes 16s and 22s were weaker, with reference to abrasion and bursting, than were those fabrics produced from conventional ring spun yarns. The open-end spun yarns of both sizes and fiber content wicked more slowly than did the ring spun yarns of like construction. Good dimensional stability was exhibited by the open-end fabrics without regard to yarn size and fiber content. The open-end spun yarns in sizes 16s and 22s, generally, displayed the least amount of compression and the greatest percentage of recovery. The open-end spun yarns generally experienced a greater percentage of moisture regain than did the ring spun yarns.

*Natural Fiber and Food Protein Commission of Texas, Texas Woman's University.
Analysis of Factors Influencing Consumer Awareness of Care Labeling Systems for Textile Products*

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Audrey Newton, Chairman and Professor
and
Barbara Scruggs, Research Assistant
University of Nebraska-Lincoln

Objectives of this study were (1) determination of the labeling system (or systems) most effective in providing care instructions on permanently affixed textile product labels, (2) analysis of consumer awareness of effectiveness of various labeling systems in providing care instruction through permanently affixed textile product labels, (3) determination of influence of age, educational level, and past experience on consumer awareness of effectiveness of care labeling systems for textile products, and (4) determination of influence of educational programs and mass media on consumer awareness of effectiveness of care labeling.

Random sampling of the 746 Home Extension Clubs in District V, Nebraska Cooperative Extension Service, provided 212 homemakers who participated in the study. Subjects participated under two conditions—without educational experience and after an educational program including a slide-tape presentation of the FTC care labeling regulations and the ICLS, Canadian, and British symbol systems. Participants ranked ordered effectiveness of five labels for twenty textile products.

Computed mean rank of labeling systems over all respondents for the twenty selected textile products showed briefly worded care instruction ranked highest in effectiveness, followed by letter codes with words, symbols with words, extensively worded labels, and symbols as the least effective labeling system. No effect of the educational experience on such ranking was noted. However, textile products that required special care on limited refurbishment often resulted in marked preference for extensively worded labels.

Textile products were subsequently divided into groups with similar care concerns—hand wash instructions, machine washable products, and products with special care concerns. Variance confirmed symbols were ranked higher in effectiveness for the machine washable products, while extensively worded care instructions were ranked higher in effectiveness for the special care products. Spearman rank order correlation coefficients were computed among ranking of effectiveness of labeling systems for each textile product and selected subject characteristics. As the number of adults for whom the participants were responsible for clothing selection increased, the more effective the briefly worded labeling system was rated.

*Experimental Station Project 94–006.
Purpose and Hypothesis of This Study

The purpose of this study is to determine customer preferences as to warm or cool color garments in relation to weather conditions. Warm colors include shades in the red, yellow and orange color families, while cool colors encompass the blue, green and purple hues. Sunny days in this study were defined as those with a mean temperature of 50°F or above with sunshine the majority of the daylight hours. Cool days were overcast and dreary with temperatures under 50°F. This study was done in the early spring. We predicted consumers would be more interested in cool colors on warm days and more interested in warm colors on cool days.

Procedure

A T-stand holding a warm color and a cool color garment of the same style was set up in the main traffic area of a women's sportswear department in a large suburban department store. A tally was kept as to the number of shoppers who felt, tried on, and ultimately bought each color.

Observations were done over six days. Three of these observation periods were classed as warm days, while three days were cool and overcast.

Results

The findings of each of the three dependent variables—(1) felt the garments, (2) tried on the garments, and (3) bought the garments—are found in Table 1.

For each dependent variable, the hypothesis was supported by the results. However, significant or near-significance was found only for (1) felt and (3) bought variables. Failure to find a significant difference for (2) tried-on, and the near-significant result for (3) bought, may be a function of the smaller sample size on the cool days.

Implications

Retailers could financially benefit by recognizing that climatic conditions influence buying behavior. Placing merchandise of the appropriate color family to main traffic aisle exposure may increase the volume for the day, because psychologically consumer interest would be higher.

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<tr>
<th>Warm Days</th>
<th>Cool Days</th>
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<td>Dependent Variable</td>
<td>Warm Colors</td>
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<tr>
<td>1.</td>
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<td>2.</td>
<td>29</td>
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<td>3.</td>
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The objective of the study is to clarify objectives for an undergraduate retailing internship by describing and comparing the attitudes of cooperating retail supervisors in four job title groupings, (1) department and sales managers, (2) store managers and owners, (3) merchandise managers, buyers, and assistant buyers, and (4) personnel executives, toward selected behavioral objectives. The objectives represented learnings in the broad areas of (1) merchandising, (2) sales promotion, (3) finance and control, (4) operations, (5) personnel, (6) managerial leadership, and (7) career choice-making.

Data were obtained by questionnaires completed by fifty-six retail supervisors cooperating in Kansas State University's fall 1975 retailing internship. These supervisors rated, on a scale of zero to four, twenty-one behavioral objectives on the basis of how important they felt it was for students to reach each of those objectives by the close of the internship.

The objectives to "gain a realistic view of retailing as a possible career choice through actual work experience," to "develop a sense of priorities in the accomplishment of assigned responsibilities," and to "make a positive contribution to the department and the store as an employee and as an intern" received the highest mean scores of the twenty-one objectives. Using analysis of variance, no significant differences were obtained for twenty of the objectives, although two tended toward significance. A significant difference at the 0.05 level was obtained for the objective to "develop an appreciation for the role of the retailer in the fashion marketing system as a place where merchandise and customers meet."

A null hypothesis that there is no significant difference among supervisory job title categories in attitudes toward the selected behavioral objectives could not be rejected for eighteen out of twenty-one questions. It was rejected only conditionally for two questions, and rejected for one. On the whole, the supervisors exhibited a high degree of uniformity in their attitudes toward the objectives.

These results and conclusions may be particularly useful for pre-internship orientation to facilitate student understanding of supervisory attitudes toward internship objectives. Because of the fairly uniform nature of supervisory attitudes, generalizations can easily be made for use in an orientation situation.
Interactive Effects of Achievement Anxiety, Academic Achievement, and Instructional Mode on Performance and Course Attitudes*

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Assistant Professor
The University of Texas at Austin

The study was designed to investigate (1) the interactive effects of achievement anxiety, academic achievement, and instructional mode on performance and course attitudes, and (2) the differential effect of instructional mode on achievement anxiety of low cumulative point-hour ratio (CPHR) and initially low F-D anxiety students.

Data were obtained from ninety-two students enrolled in an undergraduate clothing design course during two quarters. The two groups of students were studied intact. The variables were CPHR, F-D anxiety score on the Achievement Anxiety Text (ATT), instructional mode (TV lecture-supervised laboratory and independent study), and scores on three criterion instruments. Knowledge and application of course content were measured by performance on a Clothing Design Unit Test and a Clothing Design Exercise. Course attitudes were assessed by responses to items in the Purdue Rating Scale for Instruction.

The interactive effects of achievement anxiety and instrumental mode on three criterion variables were assessed utilizing multivariate analysis of variance. There were no significant interactions and no main effects. The tendency for high F-D anxiety, high CPHR, and independent study students to outperform low F-D, low CPHR, and TV lecture-supervised laboratory students helps to explain the lack of a significant disordinal interaction. The differential effect of instructional mode on post-treatment achievement anxiety was assessed utilizing analysis of covariance. The TV lecture-supervised laboratory mode was associated with more facilitative achievement anxiety scores than the independent study mode. However, the difference was not significant.

The findings have implications for instructional design with respect to achievement anxiety, course attitudes, and academic achievement. Academic and non-academic outcomes of educational experiences are likely to be enhanced by providing a wide variety of instructional activities and allowing students both to select and to devise those which will be most meaningful to them.

*Ph.D. dissertation, Ohio State University.
The Relation Between Job Satisfaction and Specific Academic Records*

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Department of Clothing, Textiles and Merchandising

and

Brenda Sue Johnson, Student
Oklahoma State University

The specific objectives of the study were (1) identification of certain evidences of the aptitude and achievement of fashion merchandising graduates (2) measurement of the job satisfactions of selected fashion merchandising graduates presently employed in retailing, and (3) study of the relationship between job satisfactions of selected fashion merchandising graduates and certain evidences of achievement aptitude.

Analysis of the data obtained from the questionnaire indicated that a majority of the thirty-eight respondents were employed in retailing firms in four major Southwestern cities. The average length of time employed with a firm was twenty-one months. The average salary was within the range of $10,000 to $12,499 a year, with 22 percent reporting an income of $15,000 or above. The job title listed most frequently was that of buyer. Job satisfaction, as measured by the Job Description Index (JDI), was divided into five major scales of work, pay, promotion, supervision, and co-workers. The retail management personnel in this study expressed the greatest satisfaction with supervision (mean score of 46) and co-workers (mean score of 45). The major correlations in this study were those between academic records and job satisfaction. Of this group the highest correlation (R = .48, which was significant at .01 level), was between aptitude, as measured by the General Clerical Test (GCT), and job satisfaction, as measured by the JDI. Among the JDI scales the pay and promotion factors indicated the strongest relationship to overall job satisfaction (R = .83).

The following conclusions are based on the findings of this study:

1. The respondent's aptitude (GCT score) was found to be a stronger predictor of job satisfaction (JDI score) than the academic grade-point.

2. In terms of job satisfaction the retail personnel in this study showed a stronger concern for their opportunity to advance and their level of pay than for co-workers, supervision, or work itself.

3. By comparison, as a group, the students in this study, limited to retail management, were found to have higher levels of job satisfaction than the plant employees studied by Smith.

*M.S. thesis
The Aesthetic Aspect of Clothing: A Schema for Analyzing Its Significance to the Field of Home Economics

Robert Hillestad
Associate Professor
University of Nebraska-Lincoln

Objectives

The purpose of the project was to construct a schema for (1) examining the aesthetic aspect of clothing and (2) relating it to the philosophy of meeting the needs of individuals and families on which the field of home economics is based.

Results

The construction of a schema based on Bloom's taxonomy of educational objectives was the result of the project. The schema consists of two basic components—(1) a core depicting the factors involved in the aesthetic aspect of clothing and (2) a field of activities in which the home economist utilizes the aesthetic aspect of clothing in meeting the needs of individuals and families.

The core of the schema delineates the visual phenomena factor, the skills factor, and the emotional response factor as potential ingredients for aesthetic activities related to clothing. The identification of each factor is based respectively on the cognitive, affective, and psychomotor domains outlined by Bloom. Areas of aesthetic activities based on various interrelationships of factors have also been identified in the core.

The field of the schema in which the aesthetic aspects of clothing are utilized consists of two dimensions—(1) an end-means continuum which pertains to the utilization of the aesthetic aspect of clothing and (2) a simplicity-complexity continuum which pertains to the level at which the aesthetic aspect of clothing is utilized to meet the needs of individuals and families.

Conclusions

The conclusion of the project is that the significance of the aesthetic aspect of clothing can be analyzed in schematic form.

Implications

The results of the project have implications for (1) the development of theories pertaining to the aesthetic aspect of clothing, (2) curriculum development, and (3) formation of research projects.
Objective

According to anthropologist Junius Bird, "Textiles must be appraised not only for their aesthetic merit, but for their technical features." The purpose of the research was to conduct an in-depth study of the H. A. Ellsburg collection of Pre-Columbian Peruvian textiles at the Detroit Institute of Arts. The research was made possible by a faculty research grant from Wayne State University.

Procedure

The procedure included examination and microscopic analysis of the Peruvian textiles dated from 100 A.D. to the Spanish Conquest in 1532. Fabrics were examined and records compiled of the fiber content, year count and structure, fabrication techniques, color and design motifs. A total of fifty-six textiles were examined, and slides were taken (thirty-four macrographs and fifty-six micrographs).

Results

The Peruvian weaver usually used all cotton or all wool. When the two fibers were used together, the cotton was always used for warp and the wool for embroidery or as weft. Featherwork was used in some of the most spectacular textiles.

Some of the specimens in the collection are over 1500 years old. Their excellent condition can be explained by the fact that they have been in mummy bundles and graves in the dry desert area of coastal Peru. Most of the colors appear to be as bright today as they were originally.

The most interesting findings in the study were in the area of fabrication techniques. Several textiles are remarkable because more than one technique was used within a single fabric. For example, a fabric might have a border of tapestry (a technique in which there are a few warps in relation to the weft) and a section of plain weave. The Peruvian craftsman accomplished a smooth transition between the two areas by using the warp yarns in groups of three in the tapestry portion and singly in the plain portion.

Implications

Textile specialists, art historians, anthropologists, textile designers, and craftsmen will find the results of the study and the availability of the collection of value in studying their various disciplines.
Yoruba Dress: A Systemic Case Study of Five Generations of a Lagos Family*

Betty Wass
Assistant Professor
University of Wisconsin

Purpose

The purpose of the study was to analyze communicative aspects of the dress of the Yoruba people of Nigeria from 1900 to 1974 as the dress was linked to social role indicators of age, sex, marital status, religion, occupation, education, and occasion.

Procedure

Explanations of changes in dress over time are linked to societal changes as a whole; therefore, a social and political history of Nigeria focusing on Lagos from 1900 to 1974 was compiled emphasizing influences on dress.

Similarities and contrasts between the population of the study, an extended family, and the larger ethnic group to which the family belonged, the Yoruba, were delineated by the case study approach. The researcher gathered information about the family while living with them for six weeks.

Data concerning dress were collected from viewing and discussing the family’s collection of approximately 1,000 photographs dating from 1900. Modes of dress were determined within each time period by frequency counts of items of apparel used together.

Results

The time period was divided into three segments corresponding to political milieux. In 1900 the British became the colonial power ruling Nigeria. 1900 to 1939 was characterized by a period of low degree of sentiment promoting nationalism. 1940 to 1959 were years of increasing desires for independence, and 1960 to 1974 encompassed a period of post-independence. The informant family was among the “new” elite relative to Yoruba families of Lagos, elite status being gained primarily from education and resulting occupations.

Predominating modes changed over time from 81 percent Western dress worn in early years to 44 percent indigenous dress following independence. Mode of dress chosen varied with social role placement. Change from the western to the indigenous mode over time was most evident among adults over age sixteen, the maximally educated group, and adults taking part in special occasions. A large increase in use of indigenous dress was also seen on males as a group.

Implications

Photographic evidence verifies that modes of dress differ in conjunction with social role indicators in a non-western culture. The limited number of modes of dress indicate that rule-governed nature of behavior related to dress.

*Ph.D. dissertation research, Michigan State University.
Survey of Retired Systems for Historical Costumes*

Martha Shewes Hemminger
Miami, Florida

Objectives

Many suggestions are available concerning the preservation, maintenance, and display of historical costumes, but such information is usually geared for the large museum with extensive funding required. The purpose of the present study was to establish a basic retrieval system for the University of Kentucky's Bettie D. Eastin Historical Costume Collection. The system would include registration, cataloguing, marking, and storage for the collection.

Procedure

Information was obtained from 150 American museums containing costumes and/or accessories via questionnaire designed by the researcher. Categorization was used in analysing the data.

Results

The results of the survey were as follows:

1. The year of acquisition, followed by a sequence of numbers, was most often used for registration.

2. Seven major items—accession number, date received, source of acquisition, description date or period, fabric or fabric structure, and condition—were included on a catalogue card.

3. Simple cross-referencing was employed.

4. Tags were used as a temporary means of marking.

5. Permanent marking was by linen tape sewn in a uniform place or written directly on the item when necessary.

6. The most frequently cited storage practices included periodic mothproofing/fumigation, accessories in drawers or boxes, garments covered or in drawers or boxes, and similar types of costumes or accessories stored together.

The results of the survey formed the basis for developing a system for registration, cataloguing, marking, storage, and retrieval of the University of Kentucky's Bettie D. Eastin Historical Costume Collection.

Implications

Other colleges and universities may find the results of the study of value in developing a system for handling similar costume collections.

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*M.S. thesis research, University of Kentucky.
FINANCIAL STATEMENT—October 26, 1976

submitted by Ardis M. Rewerts, Treasurer

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Sarah Sanders  
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Doris Wellan
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Elaine Zarse
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Milwaukee, Wisconsin 53222

* Non-Member
† Student Member
+ Student Non-Member
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*Papers by Barbara Christensen and Sue Halliday were not available at time of printing.
WESTERN REGION
ASSOCIATION OF COLLEGE PROFESSORS OF TEXTILES AND CLOTHING

Sparks Nugget
Reno, Nevada

October 27–30, 1976

PROGRAM

WEDNESDAY, OCTOBER 27

6:00 p.m. Executive Board Meeting
Presiding: Mrs. Linda Thiel, President

7:00 Registration ........................................... Centennial Room

8:00 Reception ............................................ Centennial Room

THURSDAY, OCTOBER 28
(Morning Meetings in Centennial Room)

8:30 a.m. Opening Session
Presiding: Dr. Naomi Reich
Welcome: Dr. Patricia A. Tripple, Dean, School of Home Economics, University of Nevada, Reno
Dress of The Paiutes: Mrs. Margaret M. Wheat, Author of “Art of the Primitive Paiutes”
Work Dress of The Western Buckaroo: Honorable Molly Flagg Knudtsen, Author of “Here Is Our Valley”

10:30 Coffee

10:45 The Beautiful Blue Denim Waltz by Levi Strauss: Ms. Sheila Burns, Extension Home Economist, Douglas County, Nevada

11:45 Bus departure for Virginia City, Nevada’s historic ghost town

1:00 p.m. Luncheon ........................................... Sharon House, Virginia City, Nevada
2:00  Tour of Virginia City
The Way It Was Museum—Margot Kendall’s exquisite collection of dolls dressed in the fashionable costumes of 1860–1890, the period of Virginia City’s heyday
Pipers Opera House—Where many renowned artists from all over the world performed
The Mackay Mansion—John W. Mackay, one of the Big Bonanza kings, was an early benefactor of the University of Nevada

5:00  Return to Reno

FRIDAY, OCTOBER 29

8:30 a.m. Research Reports .......................... Centennial Room, Sparks Nugget
Presiding: Dr. Leila Old
The Heritage of Dress as Design Inspiration: Mrs. Gloria Furer, University of Hawaii
Effectiveness of Commercial Stain Removers: Ms. Valerie Corbett, California State University at Northridge (presented by Nancy Owens)
The Consumer Speaks: Mrs. B. Jean Margerum, University of Nevada, Reno
Predicting Seam Slants: Barta Stevenson, Utah State University (presented by Ruth Clayton)
New Insights Into The Meaning of Masculinity and Femininity in Dress—Ronal T. Hastie, University of Washington

8:30 Teaching Materials .......................... Coral Reef Room, Sparks Nugget
Presiding: Dr. Barbara Christensen
Modular Instruction for Teaching Fitting Principles: Ms. Annette Fraser, Weber State University
Stop Motion Production of Film: Dr. Barbara Christensen, San Jose State University
Fitting Figure Problems: Mrs. Colleen Carr, Ohlone City College, California
Pants Fitting Slides: Mrs. Sue Halliday, Ohlone City College, California (presented by Barbara Christensen)
Buttonhole Slides: Mrs. Hattie Roberts, El Camino, California
Teaching Tools for Merchandising: Miss Janet Else, Colorado State University, Fort Collins

10:15 Business Meeting .......................... Centennial Room, Sparks Nugget
Presiding: Mrs. Linda Thiel, President

12:00 Luncheon .......................... Coral Reef Room, Sparks Nugget
1:15 p.m. Meeting. .................................. Centennial Room, Sparks Nugget
Presiding: Mrs. Ruth Clayton
The Evolution of Modern Basque Costume: Dr. Jon Bilbao, Bibliographer,
Basque Studies Program, University of Nevada, Reno
Displaying Historic Costumes: Ms. Mary Hunt Kahlenberg, Curator of Textiles
and Costumes, Los Angeles County Museum of Art

3:15
Coffee

3:45
The Inexorable Cycle of Style Change: Dr. Dwight E. Robinson, Professor of
Business, Government and Society, University of Washington (presented by
Dr. Marilyn J. Horn, University of Nevada)

7:00
Banquet and Entertainment ................................ Coral Reef Room, Sparks Nugget
Presiding: Ms. Jean Rogers
Partners in Harmony—Barbershop Quartet
A Western Farewell: Dr. Max Milam, President, University of Nevada, Reno
Summary and Evaluation

SATURDAY, OCTOBER 30

8:00 a.m. Executive Board Meeting
COMMITTEES

Officers
Linda Thiel, President
Audrey Giaseking, President-Elect
Barbara Christensen, Secretary
Clara Fink, Treasurer
Janet Else, Historian

Board Members
Janet Bubl (1973-76)
Eleanor Jorgensen (1973-76)
Ruth Clayton (1974-77)
Naomi Reich (1975-76)
Jean Rogers (1975-76)
Reine Thackeray (1st alternate 1976-77)
Francis Hoffman (2nd alternate 1976-77)
Anne Kernaleguen (1976-79)
Marilyn Burns (1976-79)
Doris Hime (1976-79)

Local Arrangements
Marilyn J. Horn, Chairperson
Mildred Amis
Ann Cook
B. Jean Margerum
Nancy Murray
Connie Sjoberg

Nominating
Ruth Clayton, Chairperson
Mary Etta Williams
Anne Kernaleguen

Evaluation
Joan Lare

By-Laws
Janet Bubl

ACPTC Executive Board
Carlene Rose (1973-76)
Mary Jean Wylie (1974-77)
Charlene Lind (1975-78)
Orpha E. Herrick (1976-79)
Marella Martin (alternate 1976-77)

Membership
Linda Thiel, Chairperson
Jean Rogers

Proceedings
Susan Carter
Eleanor Jorgensen
Some of you will remember that I participated in your meetings held in Pullman, Washington. That was a number of years ago. I've been accused of being a workhorse, but I can't begin to keep up with all of you people. I do want to welcome you. You've got a marvelous attendance and a good program planned. We are very pleased to have you here. We think you will go away equally pleased.

On Friday afternoon, you are going to have a speaker you didn't know you were going to have. I happen to think she is tops. Anyone who finds out on a Saturday afternoon that a speaker is not coming, gets herself organized and calls upon her resources, and carries the program through is someone special. That person, of course, is Dr. Marilyn Horn. I think she exemplifies the spirit of the faculty here and the spirit of the whole group. We've got a lot to learn. If this meeting is really worth your time and your respective institution's time, its value is not going to be determined merely by what you got from here. It is going to be measured by a more important question: "What are you going to do with what you got from here?" Of all the home economics subject matter areas, you have the greatest potential in clothing and textiles, because you fall upon the root disciplines of art, economics, psychology, and sociology. Maybe you'd like to add physiology, too, because I think it is going to become more and more important with the energy crisis. I particularly challenge your influence in the high school program that relates to clothing and textiles. You need them, and they need you. Welcome!
DRESS OF THE PAIUTES

Margaret M. Wheat*

My talk won't be long because the Paiute Indians wore very little clothing. The lady whose picture is seen on the front of my book Survival Arts of the Primitive Paiutes was my teacher, my inspiration, and a fabulous individual. She was raised by her grandmother, who was a mature woman before she ever saw a white person. So “Woozy” was brought up in the old traditional way. Try to visualize someone who cooked in a basket, who had no pottery and no means of transportation other than her feet, and then contrast that with watching a man walk on the moon—all in one lifetime.

The Indians about whom I’m speaking lived in the Great Basin, an area where there would be approximately three and one-half inches of rainfall and an evaporation of thirty to forty inches a year. This meant that the climate was extremely dry.

These people were nomads. As they moved from place to place harvesting, hunting, and digging the roots upon which they lived and clothed themselves, they carried all their possessions with them. If they traveled fifty or sixty miles on foot in search of another ripe crop, they carried their babies, water, food, clothing, and all other items that were essential to satisfy their needs. They were self-sufficient, making everything they used, such as arrows, cooking utensils, baby baskets, etc. Nothing was made that didn’t have an immediate use. After a person died, his accumulated possessions were destroyed rather than being kept and carried along by someone else. It was uncommon to have more than one of the same item, such as two dresses or two rabbit skin blankets. This custom influenced what the Paiutes wore. Another influence was the material from which their clothes and blankets were made.

The story I’m about to tell may not be true, but it illustrates beautifully a little bit about these people. As I’ve mentioned, they wore very little clothing and didn’t seem to be uncomfortable with the rigorous cold or excessively hot weather. Upon one occasion, a soldier was riding along on his horse and an Indian man was trotting along on foot beside him. The Indian was entirely naked. It was cold; the soldier was wearing a coat and an overcoat. The soldier asked the Indian if he were cold, to which the Indian replied, “Is your face cold?” The soldier said, “No.” The Indian then explained, “Indian face all over.”

The land offered very little in providing them with clothing. They had no sheep for wool, and no cotton, so they had to gather what was available right from the desert, relying on bird feathers and bird and animal skins, particularly the rabbit. Deer skin was also used, although the deer was much more difficult to get. They also used skins from the beaver, otter, and muskrat. During cold weather the skins were generally used for covering the feet. After an animal was killed, the skin was immediately turned inside out, put around the feet, and walked in. After a while, as the skin side began to wear, the hide would be rotated in order

*Formerly associated with the U. S. Geological Survey, the Nevada State Museum, and the Desert Research Institute of the University of Nevada.
to make the coverings last longer. Their buckskin moccasins were extremely crude, not as we think of them. They were merely pieces of hide pulled together.

Skins from birds such as the pelican or goose were laid out flat, sometimes being used as a pull for a baby’s cradle board or cut as a lining for the moccasins. Since they had no tools like knives, they used sharp obsidian. Obsidian, which is like a piece of broken glass, was also used in making arrows and lances, even used to remove slivers or whatever.

So moccasins of a sort were worn, particularly in the winter, although the snow was seldom deeper than a foot. Even then, it didn’t remain on the ground for more than two or three days at a time. Apparently these people stayed inside their shelters for the most part during the colder days.

Nevada’s state plant, the sagebrush, was used in making skirts and shoes. The fibrous material hanging on the outside of the plant was stripped off because it was quite scratchy when left on. I have brought a skirt made from sagebrush to show you. I also have a pair of shoes which look like they might have been made for a giant. However, when they are bent the right way and lined with a couple of rabbit skins, all the excess room fills up. I have often wondered if these were worn during their Indian dances. In my opinion, it would be difficult to keep them on. They are made from reeds. Both skirt and shoes were made within the past twenty-five years, and you can see they have had hard wear.

Twine or string was also made from the sagebrush. Before they could sew up their clothing, or connect pieces of leather, the Paiutes had to make the string. This same string was used to tie their houses together. The sagebrush was gathered and stored in the fall. When it was to be made into string the male Indian took several sections of slightly dampened sagebrush, rolled it over his bare thigh, then pulled it. The string was very strong and was used for a variety of things.

Hair from the deer skin was removed by scraping it off with a sharp tool. The hairless hide was then soaked overnight in a solution of boiled deer brains. Before pans were available, the brains were rubbed directly onto the hide. Obviously, a chemical in the brains helped to soften the skin. After the soaking period was completed, the hide was pulled until it was thoroughly dry—and, therefore, soft. It was then smoked to give it a tan color.

I have previously mentioned the importance of the rabbit to the Paiute. Not only was it used for food, but it was also one of the main sources for clothing. It also served as a blanket. The rabbit was skinned in preparation for the blanket. This was done by stripping it from the hind legs down over the head, taking the head skin with it. Then, starting at either end with the obsidian “knife,” one cut diagonally around the tubular hide to form a narrow strip, leaving one of the eye holes intact. The far tip of the skin, which by now had become fifteen to sixteen feet in length, was used to form a loop. Additional hides were prepared the same way, each being attached, like a chain, into the previous one. Finally, one end was tied to a tree, and as the hide was pulled, it twisted so that the hair all came to the surface of the hide. It was then interlaced or woven. This item was used as blanket, comforter, coat, clothing, or whatever.

On one occasion, “Woozy’s” husband and I had made enough “yardage” to make a blanket. We left it hanging on the wall while we went to town. When we returned, it was gone. Since then, I haven’t gotten enough hides together to make another blanket. A museum in Yosemite offered me $500.00 for another blanket I had made, and my Indian friends couldn’t believe they were worth that much. It is inconceivable that jack rabbits are now becoming scarce in Nevada. Imagine paying a dollar for a rabbit when at one time rabbits had a bounty of five cents apiece on them.
Another pair of moccasins I brought to show were also made by the Indians. These were made from strips of coot skin or mud hens, wrapped around a string, then woven into a blanket-like structure. A short time ago, I asked “Woozy” if she could remember her first shoes. She said she was quite a sizeable child when she first wore them, and they hurt her feet. Children generally went barefoot. I also asked her if it were cold without shoes in the wintertime, and she didn’t remember having suffered from the cold as much as from the discomfort of the shoes on her feet. She was accustomed to having hides slipped on to the feet.

It wasn’t until around 1860 that the Indians had their first contact with the whites. There were very few white people in the state of Nevada until after the Virginia City and Comstock gold discoveries. Indians were little affected by the California Gold Rush, although many prospectors came back from California and acquired much of the land previously occupied by the Indians. They set up fences, plotting out forty or eighty acres, and instructed the Indians to “stay out.” This was inconceivable to the Indians, who were unaware that people owned property. Eventually, the Indians worked for the white man, receiving a little bit of goods as payment.

There is one reservation owned entirely by the Indians. It has a desert lake without trees surrounding it. About 1959, the Bureau of Indian Affairs urged that this land be protected. I was instrumental in fighting for this, so at present the Indians still have their reservation and their lake, without having motels and golf courses surrounding the lake’s edge.

We were so happy about the arrangements set up by the BIA that we decided to have a masquerade dance. One of my Indian friends decided that I should wear an “Indian dress” which she had made. It consisted of a blouse, a skirt, and a triangular-shaped handkerchief for the head. This has been a typical dress for the past seventy-five years, and many may still be seen wearing it. The scarf is always worn; but if one is at ease in someone’s presence, she lets it slide off the back of the head. I won first prize at the masquerade party. They had even taught me how to walk like the old Indians. Of course, the young Indian people today have adopted all of our modern ways of dressing. They are extremely neat and well-groomed when they go into the stores. I’m amazed at what has happened. They’ve lost some of the good, yet they have also gained some good.
Photographs and paintings from a hundred years ago show that the work clothes of the buckaroo have undergone only minor variations in the course of the intervening century. Vests, which appear in early pictures, vanished, only to reappear a few years ago. The cowboy hat is with us yet, as are the cowboy boots. And when Mr. Levi ran up his first pair of denim pants on the shores of San Francisco Bay, he put the working ranch hand into a uniform which persists until this day.

But what of the women? What were they wearing? Invariably they are shown in flowing skirts; and contemporary fiction, if it ever allows them out of the house, promptly places them in situations brought about by their feeble-minded idiocy, situations from which they can be rescued only by the heroic actions of their male companions. Kidnappings, runaways, enraged bulls, and frequent fainting spells: the unfortunate ladies suffer them all. Yet a hundred years ago, even as they are today, women were working on ranches. What were they wearing while they worked? I decided to seek out some firsthand information on the subject. Although I could not go back a hundred years, there were still some intrepid ladies around who had roped and branded and herded cattle in the early days of the twentieth century. Katie Isaac Oran was one of these. Born into a large family some seventy years ago, she grew up on a Central Nevada ranch situated in the northern part of Grass Valley. I knew from stories I had heard that Katie was a fearless and experienced horsewoman and participated in all the activities of her family’s ranch. She presently lives in Reno, and I lost no time getting in touch with her. After verifying that the stories I had heard of her youthful exploits as a buckaroo were true, I asked, "What did you wear when you were riding and working around the ranch?"

Raising a family of ten children can put a strain on any pocketbook, and the Isaacs were no exception. "Hand-me-downs" were the rule, rather than the exception. It was no surprise when Katie told me, "Why, I just wore some of my brothers’ clothes."

"Did you ride sidesaddle?"

"Goodness no! I rode any saddle that wasn't being used."

"Didn't you wear long skirts?"

Katie laughed. "Sometimes, if we were going to visit neighbors or to a party or something, I wore them. But they were a lot of bother. Usually I wore Levis."

"Did you wear one of your brothers’ hats?"

*Mrs. Knudtsen, who publishes scholarly writing in archeology and anthropology under the name of Molly McGee, has worked with the Nevada State Museum, the Smithsonian Institute, the University of California at Berkeley, the University of Nevada at Reno, and the Center for Western Studies of the Desert Research Institute.
There was a long silence, and then rather reluctantly Katie said, “No. Mama made us girls wear sunbonnets.” The slight note of resentment in her voice made me see very clearly the annoyance she had felt at the insistence of her mother that she protect her complexion, but I thought to myself that the pink cheeks and flawless skin that were so becoming to Katie would not have been preserved without the hated bonnet. Taking the sunbonnet as a clue, I said, “What did you wear on your feet?”

Katie allowed herself a rueful chuckle. “You won’t believe this,” she said. “Mama made us wear high buttoned shoes. We never did wear boots.” I glanced down at Katie’s pretty feet and slender ankles, and thought that Mama had been wiser than Katie would admit!

Basically the clothes worn by men and women working on the ranches of the Far West are the same, with a few feminine variations to differentiate the sexes. Women no longer wear sunbonnets and high buttoned shoes, but most women wear scarfs to protect their hair and faces when they are buckarooing.

Just what is a buckaroo? The term is unknown in the Middle West and Rocky Mountain states and is rarely if ever heard in the Southwest and Northwest. It seems to be confined to California and Nevada, with some overlap into surrounding regions. Source books I have consulted say the word is derived from the Spanish “vaquero,” but that sounds pretty far fetched to me, although the dress and manner of the buckaroo clearly show a strong Spanish influence. A buckaroo is a man who hires out on a ranch to look after the cattle.

Large ranches have a hierarchy as iron bound and complex as any system of governance. The buckaroo answers to a cowboss who answers to a foreman who answers to a manager who answers to the owner. Beneath the buckaroo in the social scale are the wrangoboy and the choreboy. On these large ranches, the buckaroo works with cows and also maintains the many miles of fence which separate pastures and divide one range from another. Their feet are small, encased in handtooled, high heeled boots, and on their hands are buckskin gloves. These dandies are rarely found on smaller, family-operated ranches where everybody pitches in and does what work needs doing.

The ranches in Grass Valley where I have lived most of my life were all family-owned-and-operated ranches when I first came to live there in 1942. The pattern of ranch ownership has changed in the intervening thirty-four years; but the tradition of personal involvement remains strong, and most of us still do everything and cannot afford the luxury of specialization known on the big outfits. But even though a good many hours of the day may be devoted to cleaning out ditches, burning brush, keeping books, housework and washing dishes, what we put on in the morning is what we wear all day; and what we wear can best be described as work clothes of the buckaroo.

These clothes are practical and comfortable, and they are designed to accommodate to the incredible temperature variations common to the mountain country of Nevada. Several years ago Vogue began talking about something its editors called “the layered look.” Leaving the house on a winter morning preparatory to spending the day on a horse looking after my cows, I wear more layers than Salome when she did her dance of the seven veils!

It is interesting how traditional clothing develops in different parts of the world when it is worn by men who are basically engaged in the same activities. The Tartar of the Russian Steppes does not dress like the Englishman or Arab, and none of them dress like the Western cowboy or buckaroo. Yet they are all horsemen, dressed for long hours in the saddle. I had ridden horseback all my life when I came to Nevada, but the dress with which I was familiar in no way resembled buckaroo garb. For one thing, I rode sidesaddle. My riding habits were made at Busvice in London, my boots were made by Maxwell, my shirts came from Turnbull and Asser, a shirt maker on Savile Row, my saddle was made by Whippy, and so on. Although I quickly discarded my English clothes in favor of the ubiquitous Levi, I clung to my sidesaddles until they literally disintegrated. Finally no vestige remained of my earlier way of dress, and in every
detail I wore the work clothes of a typical buckaroo—except for my shirts, which to this day I have made to order on an English pattern.

Headgear varies somewhat with the seasons, but a good quality felt hat with a high crown and a broad brim is what most buckaroos prefer to put on their heads; and when they put it on, there it stays. No real buckaroo would anymore think of starting out for a day’s work without wearing a hat than he would think of going out without his pants.

A couple of weeks ago my husband and I were invited to a birthday party given by some rancher friends in Pine Valley. The luncheon was held on a terrace in front of the house overlooking the valley. It was a lovely autumn day, clear and sunny with a brisk wind blowing off the mountain. Most of the guests were from Elko, and they had dressed for a day in the country in various forms of Western wear; but none of them (men or women) wore hats. From beneath the sheltering brim of my old Stetson, I watched while the ladies’ fashionable hairdos swirled around them like the manes of wild horses and the baking sun turned faces from pink to purple. There is a lot to be said for a good Western hat!

Straw hats are lightweight and cool in summer, but they have their disadvantages. They blow off at the least puff of wind. There is nothing worse than to jump your horse out to head a cow and have your hat come sailing off your head at the first stride. Then, while you get off, pick it up, and jam it back on your head, the cow has kicked up her heels and vanished over the top of the mountain. Another disadvantage of a straw hat is the stiffening used in present day hats. Buckaroos spend quite a lot of time in and out of pickups and trucks. Every time you go to get in, the hat catches on the top of the door and snaps your head back. After enough collisions with door jams, the crown of the hat breaks down and, with time, comes off entirely. Other than that, there really isn’t anything wrong with a straw hat.

Caps are for winter. The ear flaps pull down and save ears from freezing, and the snug fit does keep your head warm. Caps come in all sorts of different styles and fabrics, from fur to cloth. My preference is a duck billed cap made of corduroy. Everybody used to wear them; but now they are hard to find, and leather caps are the ones most frequently worn. Like many other women, I wear a silk scarf under my cap and also under my hat. In warm weather I let it hang free, but it is amazing how much warmth there is in a silk scarf wrapped and tied around your neck.

I like a silk scarf around my neck, too. Aside from the comfort of the soft material against your throat, it is invaluable in an emergency. A broken bridle or rain can be tied together with a scarf well enough to get you through the day. And on occasion I have tied up dogs and cats with a scarf, used one for a bandage, waved one for a signal, made one into a sling. The uses to which a scarf can be put are virtually limitless.

It gets cold during the winter in the high, mountainous country where I live. We used to say we had only two seasons: July and winter. And I have seen snow and killing frost in July. One of my favorite stories is about the Central Nevada rancher who was shopping in Reno and happened to run into an acquaintance who lived in the city. The city man asked the rancher, “What did you do for a vacation last summer?” Not many ranchers can afford vacations, particularly in summer when they are putting up hay, but the rancher decided not to comment on that. Instead he said, “I went fishing.” Then feeling that perhaps he should enlarge on the subject he added, “Both days.”

You can understand the importance of a warm coat in an area with 2 days of summer and 363 days of winter. When I first came to Nevada most ranchers and buckaroos wore sheepskin coats covered with canvas. These coats were durable and turned the weather well, but they were heavy. I weigh only a hundred pounds, and wearing one of those old-time sheepskin coats was like staggering around with a fifty-pound weight on each shoulder. When, shortly after World War II, quilted coats filled with goose down began to appear, providing warmth without weight, one of the discomforts of winter was eliminated. But you never gain something without losing something in exchange, and what the buckaroo gained in the down filled coat he lost with the replacement of buttons by zippers.
Zippers have their place, but they are not for a buckaroo’s coat. There is something about what we do to coats that causes zippers to jam, congeal, fly apart, and generally refuse to function. And when a zipper won’t work, there is very little to do about it. One rancher I know threads up the front of his coat with baling wire. It looks a little odd, but it does keep the coat shut. In the last year or two, I have noticed a cautious reappearance of buttons on some coats and vests. Perhaps buckaroos aren’t the only ones to have zipper troubles.

Zippers are also used on shotgun chaps. Chaps are a leather legging worn over the pants, for protection against heavy brush, barbed wire, mad cows, and all other hazards of a buckaroo’s life. They come in a variety of styles, and chaps as much as any garment will designate a man’s background. There are chinks, which cover only the upper portion of the leg, bat winged chaps, and shotgun chaps. There are chaps of heavy cowhide and chaps of lightweight goatskin. Rodeo riders wear fancy chaps, and horsemen who ride the show circuit wear tight fitting chaps with fringe trailing six inches below their feet. But buckaroos wear work chaps with a short fringe if any. A good deal of our days are spent wading around in muddy corrals doctoring sick cattle, and the glamorous outfits of show ring and rodeo look a little odd coated with mud and manure.

A style of chap which is rarely seen any more is the angora covered chap. I found an old pair in one of the seldom used buildings on the ranch, dusted them off, beat out the moths and moth eggs; and now when the weather drops below zero, I put them on. The best thing about them is that they have a closed leg: no zipper. You have to take your boots off and pull them on, but that is a small price to pay for their comfort and warmth. Also they weigh as much as I do, and when I am wearing them I have to get somebody to boost me onto my horse or ride by on my son’s Shetland pony.

Vests, or what I was brought up to call a waistcoat, went out of style many years ago, and pictures of our parents and grandparents had an added quaintness because the men were wearing vests. Evidently somebody stopped laughing at the funny old pictures long enough to try on a vest and realized that few garments give the warmth without in anyway impairing freedom of movement that a vest does. A handful were cautiously marketed, and in no time at all every buckaroo in Nevada was wearing one. There are down filled vests, denim vests, suede vests, and leather vests. They come in almost every imaginable material, but one and all they leave your arms free and keep your tummy warm. I hope they stay in style for a long, long time.

You may have noticed that I started at the head and am slowly working my way down. I have now arrived at that portion of the anatomy covered by the time honored Levi. The time when Levi Strauss had a monopoly on buckaroo pants is no more. There are a dozen different brands, all of approximately the same cut, and undifferentiated in anything except the way they shrink. After washing, some brands shrink in, some brands shrink up, and some brands shrink from every direction. One rancher I know used to solve the shrinking problem by never washing his Levis. But then he got married and his bride threw his Levis in with the weekly wash and from then on he was just as bad off as the rest of us. My husband sends all his Levis to be dry cleaned, but they shrink anyway. I buy mine two sizes too long and two sizes too wide. At first they look as though I were wearing my husband’s pants. Then for a brief moment they fit perfectly. Then they shrink halfway up my shin and I can no longer sit down in them. I’m not a textile expert, but I suspect one of the troubles with Levis is a tendency of the manufacturers to use less and less fabric and more and more sizing. That is admittedly a guess on my part. Whatever the problem, it makes a mockery out of those sanforized and preshrunk labels they stick all over the pants.

Perhaps before working my way down to the buckaroo’s feet and what goes on them, I should dwell for a moment on what goes on under the clothes I have been describing. When I first came to live in Grass Valley, I remember asking nervously, “Doesn’t it get terribly cold here in winter?” “No indeed,” I was told. “We go around in our shirt sleeves.” What nobody mentioned was
that under the shirt sleeves were at least two pairs of long-handled underwear.

I dislike the feeling of wool against my skin and go to all sorts of lengths to keep warm without wearing long woolen underwear. Danskin tights are one solution. And when they shrink, as they invariably do, I cut out the feet and wear socks. A cashmere sweater worn under your shirt is the ideal undergarment, but admittedly it is a little extravagant. There are double knits and some excellent synthetics, with new ones appearing every year. Some buckaroos wear heavy woolen underwear year around on the theory that if it keeps out the cold in the winter, it will keep out the heat in summer. I have never tried it, so I can only give you the facts without venturing an opinion.

Handtooled leather boots, with pointed toes and high, undercut heels are the badge of the buckaroo and cowboy from Kansas to California. These boots are designed to fit the stirrup; the heels are also helpful on the ground to hold a calf against the rope. Men who have worn them all their lives have shortened leg tendons and cannot walk without heels. With bowlegs from forking a saddle and shortened leg tendons, the buckaroo has been molded by his way of life and can never be mistaken for anything but what he is.

There is also something about the fit of his clothes. You can put a city visitor into buckaroo work clothes, but he still looks like what he is. Work clothes form to the body of the wearer. No amount of fitting can give the hang of a shirt and pants that have been worn from sunup to sundown, in wind and rain, in snow and heat, faded by desert sun and buffeted by all the stresses and strains of a buckaroo's work day. Lots of people wear Western clothes: truck drivers and bartenders and cattle buyers. But the smell of alkali dust and sage that permeates the real buckaroo's garb cannot be bought in a store.

A buckaroo's dress does not stop with the man himself but extends to his horse: the bridle and saddle, the kind of riata or rope he uses, the kind of spurs and the way he uses them, the gloves, the belt buckle. Perhaps it is this more than anything else which differentiates the cowboy from the buckaroo. The buckaroo has inherited the California tradition of fine horsemanship. As often as not he will ride a bridle horse that can spin on a dime and answer to his slightest command. His bit will be inlaid with silver, as are his spurs and belt buckle.

The trade of buckarooping is more difficult than might be guessed from looking at a Marlborough ad. Years of experience with cows and calves is essential, and in this day and age not many care to work so hard for such a small financial return. A high percentage of Nevada buckaroos are Indians and Basques. Both races seem drawn to the lifestyle and contact with livestock that buckarooping affords.

Indians have a distinctive way of wearing their clothes. Their Levis hang low on their hips. In the part of Nevada where I live, the Indians are Shoshones. Most Shoshones have short legs and long backs, broad and strong. Sitting a horse, the effect is oddly of a man all back and no legs. Their hats are usually black felt with a high crown and extra broad brim, and if possible they wear a large feather tucked into the hat band. They are proud of their Indian heritage, and the feather is a symbol of that pride.

The Basques are proud of their heritage, too, but they wear no feathers in their hats. About twenty years ago I was asked to write a tribute to a Basque buckaroo who had passed away. His name was Peter Etcheverry, but he was known to all of us simply as Black Pete. I had ridden many miles with Black Pete. I would like to close my talk today with a short paragraph taken from that tribute, a paragraph describing the way he looked, the way all good buckaroos have always looked and always will.

It was a cold day in late November. Some of us were riding after cattle. With hats tugged below our chins, coat collars turned over our ears, we were muffled like haystacks against the icicle cold. But one solitary horseman sat straight and spare on his lean roan horse, impervious alike to weather or companionship. His face was stern and somber, and the clothes he wore were
somber too. Levis and Levi jumper, heavy leather chaps stained almost black with use, black boots well worn and a dark felt hat pulled over one eye. The only touch of color about his person was, tied tight around his throat, a scrap of purple silk, gay and incongruous on that bleak winter day as a snatch of song.
THE BEAUTIFUL BLUE DENIM WALTZ*

Sheila Burns
Extension Home Economist
Douglas County, Nevada

The beautiful blue denim waltz is not only played by Levi Strauss and Company but enjoyed as beautiful music to the ears of textile manufacturers, clothiers, and fashion arbiters everywhere in the world. Denim has everything! It's a great textile in itself. It lends itself to a look which has been translated into a myriad of different kinds of fabrication and fiber products. It has a romantic history. It lends itself to marvelous social/psychological theories on people and dress and ways of living. Almost everyone in all walks of life identifies in some way with denim—past or present. Economically, American Fabrics magazine tells us that pound for pound denim is a bargain at any price. It is popular internationally, although American manufacturers seem to be the only ones who produce the quality of denim fabric desired by the world's devotees. The whole world is denimed and jeansed. It is a textile commonality.

The fact is that the older the fabric gets, the more washed, the more faded, the more prized it becomes; and this is in and of itself an industry and fashion phenomenon. How many of you in this room today own something made out of denim or that looks like denim?

As a teaching tool denim is a winner. The slide presentation I bring to you today is the result of an effort to extend the 4-H clothing project here in Nevada. Currently we are using clothing project materials developed by the Cooperative Extension Service, University of Washington. The first part of the series is called the clothes rack series and is devoted to teaching construction techniques. The second part and the one we are concerned with today is called the explorer series. The booklet "On Your Own in Clothing and Textiles" encourages youngsters to explore design in both fashion and textiles, to investigate consumer problems related to clothing and textiles, to explore the fashion industry, to study cultural, social/psychological implications of clothing and so forth. The project is meant to be highly individualized and encourages creativity on the 4-H member's part.

This slide presentation is designed to motivate youngsters to extend their knowledge of clothing and textiles. We use denim as the topic, as the key to open doors to other facets of subject areas. There are several things I would like you to keep in mind as you view this slide presentation. The program has not been professionalized and will be turned over to the Agricultural Communications Division of the College of Agriculture to be finished and to be put into a teaching package. It will be available to other state 4-H programs through the University of Nevada College of Agriculture, Agricultural Communications. Secondly, please keep in mind that this presentation is designed for use by 4-H volunteer leaders with youngsters between the ages of
fourteen and nineteen. The leaders may have much background in clothing and textiles, or they may have nothing or very little information. The slide set will be accompanied by a background information sheet and by a discussion guide. Extension home economists or 4-H youth program agents will work with leaders who will present the slide program. Thirdly, the presentation is one of a series. There will be at least two more sets of slides to round out the project. The second set, the history of cowboy dress with an emphasis on functionalism in clothing, will soon be completed. The third set is not actually determined. It will be concerned with how to wear Western dress or denim recycled. It could also be on the social/psychological implications of fashion. A project on recycled clothing has been developed by Jean Margerum, Extension Clothing Specialist, University of Nevada at Reno. It includes examples of recycled jeans and probably could be used as part of the series. Mildred Crawford of the Cooperative Extension Service, University of Colorado, has published a pamphlet on how to wear Western dress, which fits in very well with this total program and could be used in conjunction with it.

Those of you who live and work in the urban milieu perhaps forget that there is a large society of rural people out here who live, work, and play in Western style dress. It is a large clothing industry. It is a large fashion industry. In Nevada, Western dress is part of our heritage as well.

Here Is Denim—the New Old Textile! (slide presentation)

I would like to acknowledge the inspiration, cooperation, and assistance of the following people in producing this program: Dr. Marilyn Horn, School of Home Economics, UNR; Jean Margerum, Extension Specialist, UNR; Pam Crowell, Registrar, Nevada State Museum; Yvonne Saddler, Librarian, Douglas County Library; Elvin Powell and Larry Kirk, Agricultural Communications, College of Agriculture.

You will soon be boarding a modern stagecoach which will whisk you off to Virginia City. If you have a good imagination, you might meet “Alkali Ike” grumbling about the torn pockets on his trousers. You might run into Tailor Davis going down to the blacksmith shop to have harness studs riveted onto his pants’ pockets. This latest poster of Levi Strauss Company certainly revives the Virginia City spirit. If you are really lucky you might meet the spirit of Levi Strauss, who could have come into town on the Virginia Truckee Railway just to see how his pants were holding up!
I am not an expert on dress, nor am I enough of a folklorist to be able to approach properly the study of Basque dress. I am essentially a bibliographer. I can tell you about the resources available on a Basque subject to enable you to make a study of it. It will then be up to you to develop the topic with more research and to treat the subject in depth. There are several sources covering different aspects of the subject of Basque dress, but no single good comprehensive treatment. And, as I hope you will find from my presentation, the subject is an interesting one and worthy of further research by someone with the proper background to do it justice.

I will start by showing you several slides taken at Basque festivals in the American West so you will have an idea of the costumes most frequently worn. Let us begin with the men’s dress. Keep in mind that these outfits are being worn by dancers or by people attending and participating in a festival. This is not everyday apparel. The usual Basque dress for men in the American West is as follows: white pants and shirt, a red or green belt or sash, a red beret, a red kerchief around the neck, and white shoes with red laces, or sometimes green and red ones interlaced. A dancer might also wear a piece of leather covered by small bells tied to each leg.

The everyday beret in the Basque country is black or dark blue. It can be small, medium, or large. The size of the beret as well as the way in which it is worn can indicate the social status of the wearer, his character, or the shape of his head or face. Robert Laxalt has given an excellent description of such nuances in the chapter on the beret in his book *In a Hundred Graves*, published by the University of Nevada Press.

The beret is not very old in the Basque country. It seems to have come into wide use first in the French Basque region of Soule around the end of the eighteenth century or the beginning of the nineteenth. This would be at a time when centuries-old local traditions were being changed by the French Revolution. Later, during the first Carlist war in the Basque country from 1833–1839, the red beret became popular and identified with the Carlists, who used it as a part of their military uniform. After the war some textile industries established at that time in the Basque country began to manufacture berets, and eventually the black or dark blue beret superseded all the hats that up to then had been worn in the Basque country. The red beret became more a beret for festivals or for local officialdom.

During the twentieth century the black beret was adopted by French Basque women as well as French Basque priests. Spanish Basque priests did not begin wearing it until the 1950s, and Spanish Basque women have never adopted it. During the Second World War some of the Allied units, in
particular the British troops under Field Marshal Montgomery, began to use the Basque beret, but in a very different manner from the Basques. The Basques wear it with the headband, or sweatband, tucked inside; the British, and later other military groups, wore the beret with the headband pulled down and outside. At American Basque festivals you will see men wearing both the red and the black or dark blue beret, but dancers will always have the red one.

The belt consists of a long strip of cloth. It is sometimes made of silk but most commonly of cotton. Dancers will wear green or red ones. The green one was forbidden in Spain during the Franco regime because, together with the red beret and the white pants and shirt, it made up that color combination which reflected the colors of the proscribed Basque flag: red, white and green.

The shoes are made of white cloth with esparto grass soles. This kind of fiber sandal is called *alpargatas* in Spanish. In this country Basques use tennis shoes with red ties or with red and green ribbons interlaced. Women will lace them as far up as the knee. The sort of lacing represents an archaic type of Basque shoe for which we have references dating from the twelfth century. At that time a French traveller in the Basque country described this type of shoe as follows: “They have shoes they called *abarkas* made of hide, even with hairs. They tie them with leather straps, but the shoe covers only the sole leaving the upper part of the feet uncovered.”

This type of shoe has been used up to the present, and sometimes at Basque festivals you will see children dressed in Basque costumes wearing them. Incidentally, if you want to study Basque dress at Basque-American festivals, look at the children. Often they wear very authentic old-style Basque costumes. Remember that they are dressed by their mothers who are very careful to show a proper knowledge of old Basque costumes.

In the last ten years, due especially to the activities of the San Francisco Basque Club, quite a few ceremonial costumes for men have been seen at Basque-American festivals. These reflect costumes commonly used in local festivals in the French Basque country. This slide shows two of these types of outfits. Pay attention first to the two men dressed black. This type of suit is not very ancient. You can probably see a resemblance to military uniforms of the Napoleonic period. Napoleon’s forces occupied the Basque country from 1808 to 1813. Basques in the French Basque region were mainly employed in fortification work. In fact, most of the hills and mountains of the French Basque country still have remains of military trenches, walls and ditches. So here we have a military uniform. But notice well that the men are covered by aprons and carry axes rather than guns. With the axes they support their tall hats, also Napoleonic, which are adorned with mirrors. There have been some suggestions about the reason for the mirrors. Some scholars have thought that they might have been used to distinguish the workers at night—so they would not be shot at by the soldiers. Other types of tall hats used in ceremonial Basque dances, which date from before Napoleonic times, also have mirrors, however, so a better explanation is needed.

Between the two Napoleonic uniforms you can see a man in a red jacket. He is the leader of the band of musicians. His uniform is probably also of French derivation—a uniform for leaders of bands and parades in the eighteenth century. None of these outfits are seen in the Spanish Basque country. However, on both sides of the Pyrenees we find older types of headgear for men which have not as yet been introduced into Basque-American festivals, but which might well be seen in the future.

In recent years the Mascarade of the French Basque province of Soule has been introduced into American festivals. Here you see five men, each in a very peculiar costume. These five always dance together. One, called *txerrero*, carries a horse tail with which he sweeps the ground in front of the hobby-horse. The *zamalzain*—that is to say, the keeper of the horse—wears a high crown of feathers, flowers, ribbons, and mirrors. The horse has a tiny head on a curved neck, an oblong frame in which the man stands, and a white lace all around its structure. The rider grips his horse by the neck, moving it at every step as he dances. The *kantiniera* has a feminine outfit, a short skirt,
apron, and hat with ribbons hanging down behind. When he dances, he displays starched drawers. He, of course, represents the French cantinière, who used to accompany French troops. The fifth character, the enseñaria, is the flagbearer and is dressed in a kind of formal suit. The five characters dance, among other dances, the wine dance: a dance around a glass of wine. The final step of the dance is to stand on the glass without spilling the wine.

The women's dress is very much the same wherever it is found—in California, in Nevada, or in Idaho, as well as in the Basque country. Mainly, it consists of a red skirt with black or green horizontal bands. There can be one, two, or three stripes, usually depending on the length of the skirt. The blouse is always white, and covered by a black or green bodice which seems to be very old; this garment used to be called simply a basque in English. What is referred to as a "Basque shirt" is a man's pullover shirt with thin red and white horizontal stripes, the shirt which was very popular among sailors and pelota players. The women's dress always has an apron, which can be a very elaborate one. It can be white, red, black, or green. The headdress that goes with this outfit is always white and can be tied in many different ways. I will return to this white headdress later.

The dress is based on a style of dress worn by spinners in the nineteenth century. About the turn of the century it was adopted by the Basque nationalist movement as the official dress for Basque dancers, and it has persisted up to this day. Lately there have been some innovations in the dress of girl dancers. Dresses commonly worn at the beginning of this century by girls and women who were engaged in various activities, such as the selling of fish, have long been obsolete but have been revived by dance groups.

So more and more one now sees at Basque festivals a variety of festive dresses not previously seen. At Basque-American festivals the predominant Basque dress remains the one with the red skirt, white blouse and black bodice; but this is changing. Here, for instance, is a small girl dressed in the usual festival dress; but at this same occasion, as you can see from this other slide, another child is dressed in what is today an archaic type of dress. We know, though, that her grandmother probably wore one similar to it.

The footwear of the women is the same as the men's. The difference is in the lacing: the women will lace the ties as high as the knee. Originally, of course, this was done to support the wool stockings. In the Basque country today, where they still use this kind of shoe on the farm, the men will pull their wool stockings over their pants and they lace the strings like the women do. As I mentioned before, this type of shoe has been known from at least the twelfth century.

There have been references to the way Basques dress since early times. There are not many such references, but enough to indicate that travellers in the Basque country noticed something different. The first reference we have is that of Strabo, a Greek geographer of the first century. He said that the peoples living in the mountains of the northern part of Spain wore long black coats which also served them as blankets when they retired. Centuries later we have a more detailed description. It comes from the official historian of the Emperor Charlemagne. As you know, Charlemagne campaigned against the Moors in Spain, and afterwards crossed the Pyrenees on his way back to France. Near a place today called Roncesvales, the rear guard of his army was attacked by Basques; and many noble warriors were killed, among them Roland, immortalized in the Song of Roland. The year was 778.

Charlemagne, in order to keep that region of southwestern France and the Pyrenees pacified, nominated his son Ludovicus to be king of that region. Ludovicus was just a child at that time, so for him to be educated with boys his own age, and to create ties of loyalty for the future, the child-king was surrounded with the sons of Basque warlords. In 785 Ludovicus and his companions went to the court of Charlemagne, all the boys wearing Basque dress, which, according to a historian of that time, was as follows: "Short and round cape, shirt with long sleeves, wide breeches, spurs laced to the footwear, and javelin in hand."

This description, of course, is of a horseman. And Basques, for quite a few centuries—but especially
from the fourth century when the Roman administration ended in the Basque area up to the ninth century when the Kingdom of Navarre was established—were very much involved in military activities on both sides of the Pyrenees. There are many historical sources attesting to this.

In the twelfth century (that is, about 400 years after that description from the time of Charlemagne) a French traveller going through the Pyrenees wrote another good description of how the Basques were dressed.

[They] wear black and short garments reaching just to their knees, in the manner of the Scots, and shoes which they call "lavarcas," made of untanned leather with the hair unremoved, bound around the foot with laces, covering the soles of their feet only, with the upper part bare. They use dark woolen cloaks of elbow length, fringed like a "paenula,"* which (cloaks) they call "saias."

For the centuries from the twelfth to the fifteenth we might be able to find representations of costumes in the artwork of Basque churches, in miniatures from books belonging to Basque royalty, and in references to apparel in bills paid by Basque kings or the nobility; but we lack studies of these sources, studies which I am sure would unearth a great deal of information. For the period from the end of the fifteenth century to the beginning of the seventeenth we do have quite a few paintings, drawings, and watercolors. There are also legal documents, civil and ecclesiastical, concerning the kinds of apparel which should or should not be worn.

For the remainder of my time I am going to concentrate on a very unusual type of headdress used by married women in the Basque country. Unmarried women did not wear any kind of headgear. On the contrary, they used to partially shave their heads—as you will see in the following slide—but married women had a very unusual form of headdress. It seems each town or village had its own style. There has been some controversy among scholars as to the meaning of this type of headgear. To some the hats are corniform—that is, shaped like a horn. To others, however, they are phallic representations. As you will see from the following slides, both interpretations can be appreciated. The first slide is of a painting depicting a ceremony which took place in the Basque town of Guernica. It shows King Ferdinand of Spain after he took the oath to preserve the Basque laws. The year is 1476, just a few years before the discovery of America. The last slides have been taken from pictures in the possession of the Basque Studies Program of the University of Nevada in Reno. The photographs are of an album of watercolors dating from the first half of the sixteenth century, which is preserved in the French National Library in Paris. Some of these watercolors have never been published, so this is the first time they are being shown in public.

*In classical Latin "paenula" means a short cloak worn in bad weather.
The subject of my talk is actually very easy for me because I am going to talk about what I do every day, or at least the aspect of my job that I enjoy the most: exhibiting costumes. I feel very strongly that many people are not attracted to costume exhibitions because of the dull way they have been displayed. People come into the gallery, look at our exhibitions, and say, "Oh, I wore a dress just like that." They are familiar with the material and have an immediate response, but they don't see it in terms of art and social history. In my costume displays, background information in the form of labels and photographic material accompany the costumes.

One basic rule in exhibiting costumes is to decide what you actually want to display, the purpose of the exhibit and your point of view. The Los Angeles County Museum of Art collection has approximately 15,000 items from which to choose, so a selection of material is quite easy. The displays are not done for the local school or for any specific group, but for the general visitor coming to the museum. At the same time, however, they must appeal to the person who is knowledgeable and really interested in the area.

The best way to begin is to adopt some sort of theme. The simplest is to pick a period, or to feature a specific designer. For example, we have an excellent collection of Adrian costumes, and these were displayed together as an exhibition. We have also featured Fortuny fabrics and dresses in a show. Sometimes a group of designers within a certain period is selected. Once we did an exhibit showing how garment shapes relate to architectural shapes of various periods.

I do about three exhibits a year on a fairly limited budget—limited, at least, compared to most large museums. This budget allows $2000 for all three exhibits, so I have to raise money from outside sources to supplement this amount. Also, one must be aware of the tremendous amount of time and work that is involved in organizing an exhibit. It is not a nine-to-five job; many evenings and weekends are spent making preparations. However, the rewards come from good attendance, reviews, and publicity. Publicity can be obtained by contacting the local press and others who are always interested in costume exhibits. It makes the efforts worthwhile when you have a lot of people visit the exhibit you have laboriously put together.

Another show we did was on patterns, entitled "Patterns in Fashion." The purpose of this exhibit was to give an idea of the change of dress shapes over a two-hundred year period and the corresponding change of pattern shapes. In planning the "Patterns in Fashion" exhibit, I was really interested in the graphic design of the pattern. To convey this, we first made a paper pattern, then laid it on a board and painted it black over brown. No effort was made to arrange it as it would have been placed on yardage in preparation for cutting, our aim was simply to show the change in pattern shapes. We also photographed the inside of the garment and made several eleven-by-fourteen-inch blow-ups—just oversized enough so people could see how the garment was constructed inside. In another exhibition, the actual garment was placed on a mannequin. Next to it was another mannequin covered with a muslin dress made to show the undergarments, complete with crinolines. The
labels which accompanied the exhibit discussed such things as how garment or pattern shapes were determined by the width of fabric being woven at that time, how sections of the garment were pieced in strange ways in order to utilize every inch of fabric, how the shape was achieved in the sewing, and how the styles of sewing techniques changed.

One absolutely fabulous show I saw was the recent Paul Poiret Exhibit, sponsored and prepared by the Fashion Institute of Technology in New York City. Working with a budget of approximately $70,000, they were able to create very dramatic settings for the Poiret costumes. A huge picture of Paul Poiret was placed on the wall at the entrance of the exhibit. Accompanying this was a biographical sketch of his life and philosophy on fashion. One exhibit section featured a series of elevated, glassed-in rooms along a long narrow gallery. Individual sets similar to the magazine illustrations of that era were painted on the back walls. Considerable time was spent on each mannequin, styling the hair and make-up and giving each a graceful stance. The mannequin pose was chosen specially to fit the garment and setting. In one setting, a mirror was used on the background; this was an effective way to show the front and back of a garment. Another exhibit section—a large room and fountain with a grouping near it; all oriental splendor—was reminiscent of one of Poiret's grand masquerade parties. The mannequins in this section were not as elaborate; but a variety of poses—some were sitting, some standing—gave variety. Most of the costumes came from Madame Paul Poiret's collection. A distracting feature of the Poiret exhibit, in my opinion, was the lack of labels near the mannequins or settings. Instead, descriptions were included in a printed program in which each item was numbered to correspond with the number of the mannequins. This is a personal preference, but I prefer reading about the item near the exhibit rather than having to look it up on a printed program.

Another exhibit I would like to tell you about was one prepared by Diana Vreeland for the Costume Institute of the Metropolitan Museum of Art. The attention and publicity she has commanded has been fantastic, and it has rubbed off on all of us. It is really great the way she has spread the word about how exciting historic costume exhibitions can be. Her exhibit, "The Romantic and Glamorous Years of Hollywood," was especially beautiful. The dramatic lighting effects and the bold colors accentuated the glamorous shimmering costumes. One effective display featured a silver mannequin, bare except for a beautiful peacock feathered robe which flowed from one platform to the next. Other areas included platforms of frosted plastic blocks lit from below, an area grouping all the white costumes together, wind machines blowing sheer costumes into the air, and mirrored corners revealing the costumes in the round. Miss Vreeland's use of mannequins from a variety of sources presents a problem with the faces and wigs. To overcome this, she covers the head with a stocking, twisting it in such a way as to create a knot on top of the head. Because the costumes are the most important, what the display is all about, faces are not featured. In fact, the light was arranged so that it focused on the garment rather than the mannequin or its head.

Historic costume display can go in many directions. We can also learn many practical tricks from one another, and also create our fantasies of earlier times.
THE INEXORABLE CYCLE OF STYLE CHANGE

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Investigations indicate that fashion follows a century-long cycle, regardless of economic trends, functional considerations, or technological innovations.

Picture an anthropologist sitting at a desk, thumbing through back issues of magazines like Vogue and Harper's Bazaar until he comes to a picture of a model wearing the latest style in evening dress. He picks up his calipers, places one end on the model's mouth and the other at the tip of her toe, measures this distance, and records the model's height. His next step is to measure and record six dimensions of the model's dress. He then figures the ratio of each of the six measurements to the model's height and puts the data in graphic form. The results show when skirts were longest and shortest, widest and narrowest, when waists were lowest and highest, most pinched and most expansive, when necklines plunged lowest and rose highest, and when bustlines were most ample and most constrained.

Why on earth would a social scientist take on such a tedious and seemingly trivial task? The answer is that the eminent anthropologist who did just that recognized fashion change as a subject worthy of scientific study. Though an economist myself, it seemed to me worthwhile to follow A. L. Kroeber's lead by measuring changes in men's facial hairstyles and dimensions of automobiles over the years. Taken together, the results may have a message that satisfies a primary scientific standard: predictability.

Adjusting to fashion change has been a perennial problem for merchandisers. No matter how useful or durable a product may be, it cannot be successfully marketed unless its appearance (shape, color, texture) fits the potential buyer's present notion of what is stylish. It is often a matter of guessing what the public will consider stylish when the public itself does not know what forms will catch its fancy only a year or two in the future.

To the designer who is baffled or frustrated by this problem of rapidly shifting tastes, I would say that planning does not have to be a guessing game. All of the fashion cycles that have been measured are surprisingly regular and very long. Anthropologist Alfred L. Kroeber, who took time off from studying California Indian cultures to measure women's dress proportions over three centuries, very appropriately referred to the "stateliness of their march."

What are the internal mechanisms that create what seem to be the most regular fluctuations in all of socio-economic statistics? My reply is, in part, that where there is regularity of recurrence there are likely grounds for prediction. Not perfect prediction, of course. No emerging social era has ever slavishly copied an earlier one. Yet Victorian frou-frou, bric-a-brac, and gingerbread had much in common with eighteenth-century rococo. What the fashion measurer can offer the product planner is an eye-opening body of information about recurring patterns, removing the blindfold imposed by too much attention to economy, utility, function, and the like. I personally am convinced there is "good" design and "bad" design. But you can't hope to sell "good" design that's out of fashion any better than "bad" design.
Dialectics of Fashion

It is the same with fashion and its study as with all things: the greatest impediment to scientific understanding is human egotism. Why did astronomers for thousands of years find it impossible to accept the proposition that this little planet is not the center of the universe? Why are academicians still disputing the proposition that by no means all of human action is consciously determined? Why did William Jennings Bryan expend the greatest of his oratorical forays against that gentle, patient and perceptive man, Charles Darwin? Why, to take a present-day example, do self-appointed social scientists froth at the mouth, with no recognition of his greatness, at another gentle and painstaking scientist, Konrad Lorenz, who has made demonstrable discoveries about the maturation of young animals that had never crossed the minds of tens of thousands of behaviorists? Why, for one final example, have anthropologists and the popular science journalists written thousands of pages of "oh and ah"-type copy about the Leakey family to one or two scattered lines about the modest and patient Dr. Raymond L. Dart, who in 1925 discovered early man in Africa all of thirty-two years before the Leakeys in their overly publicized Olduvai Gorge found a single trace of a hominid fossil? Behind all these self-deceptions lurks the human ego.

Only thus can we understand why fashion, in many ways the most predictable—as well as the most powerful—of all social forces, is generally dismissed as an ephemeral, capricious, unintelligible thing. The ego wants to see itself as enduring, rational, and admirably straightforward.

In their shortsighted obsession with their own era, people forget that fashion change is and has been incessant, at least since civilization emerged from the dark ages. To prove this point for yourself, all you need to do is review the history of any art, fine or applied. Has any period of painting, architecture, or literature repeated the style of its predecessor? Did the Jacobean cut of clothes sit in the same sort of chair as the Elizabethan? Of course not. The supposedly immortal VW Beetle is finally defunct and the mighty blue jeans are riding for a fall.

Once stated, the law is obvious. Yet over and over again, people think and act as though it didn't exist. At every moment we tend to think that the ultimate in design has somehow been reached. I've had automotive stylists tell me that they were not sure people would buy fewer cars if they shut up shop. And market researchers have told me that at long last today's generation has become so individualistic that it has lost all interest in following fashion. Perhaps such confusion, if not self-deception, serves a purpose. If a young couple buying a new house were to allow themselves to think about how old-fashioned it would look in ten or twenty years, it would probably spoil some of their fun in setting up housekeeping.

Yet fluctuations in taste affecting all sorts of consumer goods are so regular that we now appear to be on the track of reliably forecasting them. Kroeber, for example, found that the ratio of women's heights to the width of their skirts followed a remarkably predictable cycle from 1823 through 1934.

The possibility of predicting fashion movements became even more real to me when I saw the results of my research on men's whiskers. My motivation for doing such a study was, at first, sheer curiosity: I wanted to find out whether men are any less influenced by fashion than women. As a student of economic cycles, however, I had developed the economist's weakness for trying to find cyclical patterns in such familiar things as the national income, freight car loadings, and, of course, stock prices. After plotting how men changed their minds about wearing beards and mustaches over a period of 130 years, I was amazed to discover that the results were startlingly similar, indeed almost parallel, to Kroeber's figures on dress dimensions.

Exhibit I shows the similarity between the two time series. The time scales of the two curves have been positioned to allow for an assumed twenty-one-year lead time in skirt fluctuations, possibly related to the comparative youthfulness of subjects in Kroeber's samples for dress. It is interesting to note that the coefficient of correlation for the two series is notably high, equaling 0.867. Exhibit II charts the occurrence since 1842 of men with some form of facial hair.
obtained the data for these charts by counting the pictures of men shown in issues of *The Illustrated London News* from 1842, its first year of publication, through 1972. The procedure was simply to determine for any year the comparative frequencies of five major features of facial barbering: sideburns, sideburns and moustache, moustache alone, beard, and no facial hair. Each comparative frequency was then expressed as a simple percentage, taken year by year.

The Hundred-Year March: Out and Back

As were Kroeber’s, my efforts at measurements are in the pioneering stage. My as well as Kroeber’s choices of categories for measurement may not have been the most appropriate ones in every case. For instance, as Exhibit II shows, my classification of “sideburns and moustaches” was never a form of significant proportions. As can be observed, less than 20 percent of men ever chose to wear such a combination. In the classification “sideburns alone,” only a downswing took place during the period I plotted.

Nevertheless, the time series for beards, moustaches, and all forms of facial hair turned out to be impressive. The beard wave started almost coincidentally with the first year of publication of *The Illustrated London News* and bottomed out around 1940. The popularity of the moustache began a sharp rise about 1870 and came close to rock bottom in 1970. These two waves, then, are both about as close to a century as one can imagine. But then we come to the most impressively regular wave of all. The wave of the number of men wearing some form of whiskers shows half of its rise between 1842 and 1885 and all of its decline from 1885 to 1970. If we allow 40 years for the first half of its rise, then we start about 1800, for a full wave of 170 years. The average of these four cycles (excluding the sideburns and moustaches in combination) is 122.5 years.

Kroeber, too, may have chosen one or two measurements that failed to yield impressive measurements. His figures on skirt length, for example, are of limited interest because before
Exhibit I
Fluctuations in skirt width (1823-1934) and beard frequency (1844-1955)

Note: The curves are based on five-year moving averages.

Exhibit III
The American automobile and the longer, lower look

Ratio of height to length
1920 the hem seldom rose more than two or three inches from the floor. But when Kroeber averaged the cycles of his six dress dimensions, he got a mean wave length of ninety-eight years.

The Long, Low Look in Automobiles

Encouraged by the results of the facial hair study, I decided to measure fashion swings in another article of daily life—the automobile. Exhibit III indicates that the ratio of the height to the length of the average automobile is going through a cycle. True, the exhibit shows a progression in only one direction, but this could be because the mass-produced car has not been around long enough to have gone through a full style cycle. The figures do give some indication, however, that after approximately fifty years this particular fashion trend toward the long, low look is reversing itself as well.

Inch by Inch

The car roof has steadily come down from a maximum height of approximately seventy-five inches to about fifty inches above the ground, or from nearly six and one-half feet to a little over four feet. Down, down, down came the car top, by half an inch in the typical year, in a manner reminiscent of the hemline in the past few years. It is tempting to speculate how many billions of dollars every single inch of this mighty downward compression has cost, and no conceivable statistical yardstick will ever tell us.

Incidentally, not only did the car have to be redesigned by means of drawings, clay models, and blueprints; but tools and dies of very hard, cold steel had to be wrought to fine tolerances to stamp out the parts of the new bodies. Currently, Detroit's annual bill for these "special tools" is running upwards of two billion dollars. And, finally, every consideration had to be given to accommodating the occupant—his frame, his vision, his position, his comfort. (Am I not right in putting comfort last? If the auto designers also treat it as least important, they would have no apologies to make to designers of lots of things in other fields of fashion—from corsets to platform shoes, boiled shirts to neckties.)

Style of Life

These findings point to a master force that, for want of a better name, we can call the style of life. This force, like Adam Smith's "invisible hand," guides us to take up or abandon different ways of seeing ourselves. It moves remorselessly, in measured steps, from one polarity to another. A shift in one direction absorbs all the energies we lavish on a "new look" for a period of approximately fifty years. This means, of course, a round trip of twice that time—usually a century or more.

Of course, there are minor backings and fillings. The chemise came upon us in a series of waves. At the time of its first appearance people said women will never accept it because it conceals the figure. This form of reasoning, as usual, was predictably wrong.

Thus, in cases like the automobile, we have just barely had time enough to see the trend go more than one way. Although the internal combustion engine was invented by 1886, the gasoline buggy remained a toy of the rich until after World War I. If my hypothesis about a century-long fashion cycle is correct, the long, low look has run its course (quite aside from the consideration that going any farther in that direction is very close to being anatomically impractical). The profile of the family car from now on will have a more vertical look to it.

What all of these trends refute is the notion that fashion behavior is random and whimsical. True, the evidence is based on only three forms subject to fashion shifts, but they are things that confront most of us most of the time. When my data on boards are observed in conjunction with Kroeber's on skirt widths, the similarities of periodicity and amplitude seem little short of astounding. And Exhibit III on diminishing car height shows a remarkable similarity to the downswing on the moustache curve in Exhibit II: both moved downward at the rate of 2 percent per year (if the one-directional movement is given the value of 100 percent). By all means let us have more measurements, but for now the few that we have are precious.
Style Scarcity or Oil Shortage?

At this point my listeners may be getting a little impatient with all this talk about fashion's influence when it's obvious that the gasoline shortage has caused Detroit to rethink its design policies. I cannot argue that the gasoline supply situation has had no effect on the kinds and sizes of cars the public is buying. I can say, though, that if there were no gasoline shortage, standard cars would still be getting shorter and higher because a fashion trend has reached its extreme and must inevitably change direction.

This brings me to my second main point—namely, that fashion cycles display a regularity that puts them effectively outside the influence of external events. These events, however, can always be given as excuses. World War I had no discernible effect on the skirt width cycle. Neither did that war disrupt the mode of shaving popular among men.

Once a new fashion trend is set in motion, there is little—whether it be technological innovation, political edict, functional change, even basic economics—that can be done to stop it or change its course. Therefore, specialists in these fields are of limited use to style policy.

Impact—or Lack of it—of the Safety Razor

If technological innovations did influence the movement of fashion, then we should certainly find evidence of that influence on sideburns, beards, and moustaches. The trend toward removing all facial hair began around 1885 and grew steadily until 1970. So one might suppose that King C. Gillette's introduction of the safety razor, which simplified the task of shaving, would have accelerated the trend toward beardlessness. Yet the data do not bear out such an expectation.

Gillette's safety razor appeared on the market in 1903; by 1905 sales records show that the public was responding to this innovation with some enthusiasm; by 1917 razor sales had risen to more than one million a year and continued to soar, so that by 1960 the company had sold an accumulated worldwide total of almost a half billion razors. But my face counts suggest that other factors were at work in influencing what men did with their whiskers.

The safety razor may well have given a final reinforcement to the clean-shaven style. But by 1905 beardlessness had been on the rise for more than 20 years, and, even more significantly, its rate of advance was nearly as marked before Gillette began to make his fortune as after.

The Foiled Central Planners

Central planners have fared no better than technological innovators. As Professor Marshall I. Goldman, prominent Sovietologist, has shown, even the Russian consumer refuses to buy clothing and other articles of daily life that a state-controlled consumer goods industry turns out, if the industry disregards the negative impact of monotonously repetitious and unimaginative design. In fact, consumer resistance has led to excess inventories of headache proportions for Soviet central planners. So it happened that "to promote variety in fashion and reduce the size of unwanted inventories, considerable administrative decentralization has been found necessary in the manufacture of certain consumer goods."

Fashion cannot breathe in the absence of free choice. Recent newspaper accounts show that the demands of the Russian consumer are promoting actions even more uncharacteristic than decentralization. A man known as "Uncle Grisha" apparently had enough orders for suede skirts to run a privately owned leather factory for two years until the authorities caught up with him. He ingeniously took over a handbag-producing factory, got shipments of hard-to-procure suede from places up to a thousand miles away, hired a brigade of tailors, and paid their wages, even though they were not registered as workers at the factory. "Uncle Grisha" is now a fugitive, perhaps fleeing straight for the New York garment district—where his initiative and enterprise would be looked on more favorably.

Dr. Goldman concludes: "Doubtless with time and no war the Russians will have their
industrialization and their fashion. Nonetheless, before both goals are attained, the centrally planned economy of the Soviet Union may have to submit to some revolutionary changes.”

Fashion and Function

But surely function plays some part, critics tell me. Actually, in the consumer's lust for design change, utility or functional qualifications play the subordinate role.

I myself happen to be something of an antique furniture buff. The more I learn about historic furniture the more obvious it becomes to me that change in style is almost everything. After all, no matter what the “functionalists” may say, a table is to provide a flat surface; and anybody who hasn't sat in an eighteenth century easy chair would be surprised at how easy it actually is. That this point is not self-evident is largely due to the fact that performance improvements provide pretexts to dress up the appeal of design changes. Of course, a dress must cover and a car must move (more or less, in either instance), but covering and movement are not what people buy. The immortal Shakespeare knew all about this. Remember that King Lear said to his unkind daughter:

O reason not the need! . . .
Allow not nature more than nature needs,
Man's life is cheap as beast's.

***

Thou art a woman.
If only to go warm were to go gorgeous,
Why then thou needst not what thou gorgeous wearest,
Which scarcely keeps thee warm.

—King Lear, II, iv

The wraparound windshield, first introduced in 1954, is an illustration of this principle. It was hailed as a triumph of engineering technology directed toward improving the driver's visual field. I argued just a few years after its introduction that the wraparound had been introduced not so much to improve the driver's field of vision as to stimulate the eye of the beholder. I got some flak about this from automobile people as well as friends. It was only after a year or two of patient sleuthing that I was able to confirm my suspicion. In the course of an interview with a great automobile stylist, he assured me that the wraparound windshield design had encountered every sort of resistance from the engineers. After recounting in almost gory detail the efforts of those who put the windshield across in the face of such die-hard resistance, the designer thought a moment and added, "You know, visually it wasn't so bad."

Some Unfashionable Notions About Fashion

If function, political edicts, technological innovations, or even economy cannot explain the fashion cycle, then what does? I believe that the explanation lies in the fact that fashion is a behavioral phenomenon, probably growing out of status competition. In jockeying for positions of higher social status, people seek to demonstrate the extent of their purchasing power. One way that they do this is through the acquisition and possession of things that are comparatively scarce—and, therefore, so much the harder to get.

Fashion creates that scarcity by discarding old forms. But gearing up production for newly styled articles takes time and money. The number of durable goods produced for any purpose in the past will obviously greatly exceed those that can be produced in any recent period of time. The recent, then, is scarce, compared with the total stock. But there would be no practicable way of distinguishing the recent from the old design unless the design of new products were continually altered in a recognizable way. Thus the everchanging consensus of fashionable taste fulfills an all-too-human need.

Imperious Consumer

The consumer's restless search for scarcity or novelty would seem to contradict the popular notion that fashion change is forced on the
consumer by the producer. But isn't it, rather, the consumer who demands innovation in design from the producers? What is more, it seems to be a small group of innovative consumers that plays a significant role in and provides stimulus to the entire economy.

This small group (invariably regarded as eccentric) conceives and nurtures the nascent style at least a quarter of a century before it comes to be considered even slightly acceptable by either the establishment or the general public. The discerning designer picks up on what this avant-garde has been doing and selects a style that he or she thinks the general buying public is ready to accept. This is not easy; the true influencers are by no means always just those with the fattest pocketbooks. Then, if the style is right for the time, it is adopted by a fashion elite and eventually filters down to the mass consumption level.

Although it is presently fashionable among certain market researchers to dispute this point, I believe it is as certain as that night follows day that once something has caught on at the Lord and Taylor or Nieman-Marcus level, its general acceptance is foreordained.

To ascertain that the consumer is no sitting duck in style innovation, you have only to read the histories of taste to find that great connoisseurs were as instrumental in changing styles as producers, and evidently took precedence over the latter. Even where the consumer “arbiter of taste” is faced with a single seller of a product, he can simply abandon the product—and has done just that, as the Soviet central planners can attest.

Quiet Leaders

Cecil Beaton, a noted photographer, critic, and state costume designer, once wrote:

Someday, perhaps, a volume will be written about the quiet, authoritative people who, without attracting attention to themselves like noisy comets, yet, by the sheer, gravitational pull of their individual choice, influence and often change the orbit of the taste of a whole epoch . . . in the world of fashion, be it clothes, interior decoration, or flowers, they continually assert fresh values. Madame Eugenia Errazuriz (1859–1951) was such an influence.

Josiah Wedgwood, whose career as a manufacturer of pottery led to his becoming the richest self-made man in England in the late eighteenth century, said nearly the same thing:

Fashion is infinitely superior to merit in many respects, and it is plain from a thousand instances that if you have a favorite child you wish the public to fondle and take notice of you have only to make choice of proper sponsors.

What I discovered about Josiah (and I am sure the same is true of any entrepreneur in the realm of highly styled goods) was his complete dependence on the example of the great connoisseurs of his day as the arbiters of his design policy—people like Sir William Hamilton, Lord Townley, and the Duchess of Portland.

Still, I am tempted to put forward Madame Errazuriz as my shining example. Beaton, who has no ax to grind, points out, “Her effect on the taste of the last fifty years has been so enormous that the whole aesthetic of modern interior decoration . . . can be laid at her remarkable doorstep . . . .” including the first use of white walls. Instrumental in launching both Picasso and Balenciaga on their paths to fame, this woman was one of that small number of great, innovative consumers to whom others look for a definition of their own tastes. The work of such a consumer is, as Beaton says, like that of an artist, “selecting and giving meaning to the things that make up the daily tenor of existence.”

Taste Watchers

Since the coming taste will be at complete variance with the current one, the designer (whether interior or exterior) should train his or her eye to select from among all the minority forms of exhibition of taste those that seem most outrageous to the conventional taste. This may sound a little like brainstorming. But as a most
flagrant illustration, look at the VW Beetle when it was introduced around 1950. Nothing could have been more at variance with the solid-gold Cadillac, the American dream car at the time. Nonetheless, as soon as a mere one or two thousand reasonably well-balanced Americans had bought the Beetle, the prognosticator should have taken it seriously as a harbinger of a popular new style of car.

Nobody in the style trades can afford to ignore what amateurs (collectors, hobbyists, sports enthusiasts, and buffs) are doing. Hobby magazines, for one thing, are treasuries of information, and are usually accurate because their readers demand accuracy. For example, such journals pick up on antique crazes for period styles of a variety of articles, whether they are clothes, furniture, or cars. It is sociologically unthinkable that, if millions of people are opting for Edwardian men's suits and women's dresses, Tiffany glass or Art Deco, or Duesenbergs and Bugattis, such associations are not going to have some effect on what people are looking for in new products (in terms of shape, texture, ornamentation, and all the rest). The runaway success of the British Broadcasting Company's Masterpiece Theatre television series "Upstairs, Downstairs" should speak volumes to taste watchers in all walks of life—and to those in merchandising.

Harley J. Earl, the great GM stylist (who worked there from 1926 to 1963), stressed this point in a letter to me of October 23, 1963:

For the last ten years I have been on the Federal International Automobile Contest Committee for the United States, and I am also serving as National Commissioner of NASCAR, the National Stock Car Racing Association. You may think this peculiar, but I have always felt it allowed me to be in contact with the people who really live automobiles and everything I got from then was spontaneous and not channeled.

Earl's comment not only bolsters the case for paying attention to hobbyists, but it should also reinforce my earlier point that the manufacturer or retailer cannot dictate fashion terms to the consumer. It may seem a long way from the pit stop to the rarefied strata in which Madame Errazuriz worked her magic; but if we consider the race car driver and the Chilean chatelaine as diverse examples of consumers, then we may be able to see who really decides what style will be popular at what time.

Sic Transit

Keep in mind that while some successful designs are so persistent that they seem almost immortal, they never are. I have already talked about the automobile's long, low look as being merely a passing fashion. All too frequently top professional designers themselves are quite blind to the transitory nature of the most impressive of design directions.

Steady Progressions

Anybody whose business is pleasing the consumer should, above all, become familiar with the fashion cycle. He or she will find a definite pattern bounded by extremes. If a planner knows where in the cycle the current design of a product is, design can be fitted to changes in consumer taste. This holds true for both the long and short range.

Perhaps that short-range thinker may ask what use a fifty-year design shift is. But, after all, a fifty-year change amounts to an average yearly adjustment of 2 percent. Once a product cycle is plotted, the planner should be able to see at what yearly rate the design moves toward its extreme limits. For the products surveyed in this article, the annual rates of progression varied from a low of about 1.5 percent to a high of 3 percent. I suspect that most products' yearly rates of design change fall within this range. On this basis there is more than a sporting chance of divining what the buyer will want next year or ten years from now.

It would be presumptuous for me to try to tell Bill Blass, Oscar de la Renta, or their humbler competitors that they should be mindful of such obvious things as the "trickle-down" phenomenon. The garment industry has learned this lesson so well that it's second nature. Yves St. Laurent may seek inspiration from the street, but the proprietor of Au Pair Apparel, Inc., occupying the twentieth
floor of 820 Seventh Avenue, can't see down that far. If he looks down too often, he is likely to jump.

What I am arguing, finally, is that fashion, in its remorseless march from one polarity to the next, is not all that unpredictable. Its predictability, even if it is not exact, should jolt us free of stand-pat attitudes and help us prepare for any new twists of the consumer's fancy. Perhaps it is too presumptuous of me to conclude with a well-known quotation:

If this be error and upon me proved,
Then no man never writ, and no man loved!
I would like to share some brief thoughts on the higher education of the past, the immediate past, the present, and then its future. In higher education today we have a rather uncertain feeling that I think is reflected in the collective bargaining movement on university and college campuses throughout the country. Essentially I think this is an attempt to find a certainty to replace the very uncertain feeling that many of us have about higher education at the present time. The fact that the future of higher education is uncertain is not terribly new. Higher education has always had an uncertain future throughout history. Universities are about 800 years old, and through all of that time they have been involved in a process of change, be it slow or be it fast. The outcome of those changes has always been rather uncertain. The important thing to me is that so many leaders of American higher education recognize that the future of higher education is in fact quite uncertain. They are generally dissatisfied with its present condition and are seriously thinking about the directions in which it should be changed with at least some implication that—and I guess that this is part of the American attitude—the people in higher education may be able to exercise some control over the direction it will change.

At the risk of oversimplification I would like to say here that the basic mission is, always has been, and always will be, I trust, to preserve, to transmit, and to improve the intellectual element of our cultural heritage. I place the word “preserve” first. I think we have to begin to think in our day and time about the preservation of the intellectual element of our cultural heritage as well as the transmission and improvement of that element. The performance of these functions, though, has entailed quite different modes of organization, different patterns of practice, and different means of support in different countries. In addition, from time to time since the beginning of higher education, society has placed other demands upon the universities. The manner in which the universities have responded to them has had great impact upon the way that higher education functions, as well as the roles it plays at any given time. The great change that has occurred in the last forty years in American higher education has been reflected in the organization patterns of the universities.

In the early 1930s one of the outstanding recipients of the doctor of philosophy degree at Harvard immediately began after he received his degree to prepare himself for a career in government service rather than going into academic life both because he did not feel that he could compete successfully for one of the limited number of academic jobs available and because he could make more money working for the government; and in those days government service didn’t pay you very well.

Even in 1942, according to the U. S. Office of Education, there were just over 1.4 million students enrolled in 1800 colleges and universities throughout the country. This was about 15 percent of the population age eighteen to twenty-one years old. Of course, World War II was in process then, taking out of college a large number of people who might have otherwise been in; but that fact wouldn’t change the data all that drastically. In 1972 over 9.3 million students were enrolled in nearly 3000 colleges and universities. This represents about 50 percent of the age eighteen-to-twenty-one-year-old population. Along
with the greater numbers of students came an increase, really an explosion, in knowledge. An increase in the complexity of our society made knowledge more essential in conducting human affairs. One interesting aspect of the current discussion of higher education is that the question is being raised whether universities really did benefit in the long run from these developments, whether, in fact, they have been able to stand up under the strain of educating an ever larger number of students and playing a much more important role in this certain aspect of our societal life. Some are suggesting that the changes that took place in the universities during that forty-year period in reality are harbingers of the future collapse of higher education, at least as we know higher education at the present time.

During that same period, of course, because they were doing so much more, universities began to require more and more money for their support. In the beginning that support was given almost without question. We went through a period in which our society felt itself rather immediately dependent upon the university. There was an unusually close harmony between the felt needs of the society and the traditional functioning of the university. These felt needs included the education of ever larger numbers of students under the prevailing ideology that every person has a right to a college education. Also it included the research that was prompted by the Russian sputnik in 1957, the one-sided race to the moon that came thereafter, medical research—all things that I am sure all of you have heard. All of those things led to rather comparatively large inclusions of society's resources into our universities. I think it becomes apparent at this point in time, at least to serious students of the university, that our schools were not really geared up to meet the demands that were made upon them by society during that period.

I can recall myself the difficulty of getting even marginally qualified teachers to stand up in front of classrooms. It always looked like things would be better the next year, but there were some pretty miserable times during that period. There was a search for even marginally qualified graduate students to replace professors who wanted to spend more and more time on what were at that time comparatively lucrative research projects, and so on down the list.

Of course universities were not really geared up for the next crisis that hit them in the sit-in revolts of the 1960s. Society tended to blame the universities for the troubles that took place during that time; but as you all know and as we keep telling our supporters outside, the revolt at that time was less directed toward the universities than toward society itself. The rebels just happened to be in the universities when the discontent occurred. But initially at least it was directed in large part toward the larger society. That's not to say that the universities were equipped to deal with the events of that period; certainly they weren't. They didn't deal with them very well either. When the revolt of the students turned inward upon the universities themselves, the universities were even less well prepared to deal with the problems that emerged. In any event, the sit-in revolt was probably the most immediate cause of some basic changes that took place.

Society became less enamored with the universities, and that showed up in the curtailment of support, especially the kind of support that translates into financial support. That brings us to a problem that universities here in Nevada and elsewhere around the country, perhaps to a lesser extent, are having to deal with. It has been called a steady state. What that means, of course, is a leveling off of student enrollment. Somewhere along the way the value of the university to society came to be equated with the number of students enrolled, despite the fact that the transmission of knowledge is only one of the many ways in which the university serves society. It is among the most important ways, but there are others that are as important.

During the period of rapid growth, I might add, the universities themselves were quite content to accept what we call student ribbon formulas for funding their activities. The enrollments were growing every year and as long as you could peg the FTE, then you could count on more funds the next year, the next biennium. After all, as long as you had some new money to play
with you at least had the illusion of improvement. Having accepted the student-driven funding formulas, the slowing of enrollment also leads directly to the slowing down of the outside funding, whether you are public institution, as we are, going to the legislature with reduced enrollments asking for still more money or private school seeking contributions, increased tuition, or whatever. Of course many of us have expected for a long time that there would be a leveling off in enrollment. We read the birth rates. We know that fewer babies were born in the 1950s than were born in the period just after World War II, but the fact is that the leveling off has really occurred before the end of the baby boom. The high school classes that will graduate next year will presumably be the largest high school class the nation has ever graduated. It is just that a smaller percentage of those people are going to college. Even with a smaller percentage there is still an absolute growth in numbers on a nationwide basis. The simple fact is that nationwide the last few years has seen fewer of the high school graduates, percentage wise, entering colleges and universities.

One element of the motivational pattern that sent students to college was economic, since people in the more prestigious and higher paying jobs were college educated. A college education seemed to be the way to get a higher paying and more prestigious job. To some extent that was true at that earlier time. Today a college degree is no longer an automatic passport to one of society's better jobs, at least if you define better in terms of economic return, increased leisure time, and certain other standards. To the extent that we accepted that socially determined role of training stations to produce persons with readily marketable skills, the saturation of the marketplace has become a very real problem. An the marketplace is probably even more saturated than we realize if you examine the exodus of middle management people from industry and from the outside economy. At the same time that the market for the better jobs was becoming saturated, human values began to change. The better jobs for which college training was required began to turn out on the whole to be harder jobs.

So-called manual labor is not what it used to be. Labor saving devices of all kinds make it less onerous than it was, even if it hasn't yet achieved the level of social acceptability that it might have at some point in the future. Of course, at least in the early years, those kinds of jobs are more lucrative than those that are available with a college degree. It is true that many of those people who go directly into the job market, who bypass college early on, later want to return to improve their own skills, improve themselves, and achieve better, more satisfying lives. The conclusion, I think, is that universities must do a better job of articulating their importance to society in order to command the resources necessary to carry on the functions of the university itself; and here I mean all the people, the faculty, and so on who make up the university and the functions they conceive to be a university function.

To take just one area, I can observe that throughout recent years at least basic research has been done largely in our universities. However, except under the stimulus of the sputnik, the race to the moon, and a few others of special emphasis in which you people have shared, the society, our society, has been reluctant to fund the research activities of the university on the scale that we would like to have them funded. Although the U. S. is the wealthiest nation in the world today, by most criteria we rank fifth or sixth in the amount of money being spent on basic research right now; and much of that now is moving outside the university as government has ceased to be quite as inanimate as in times past. The basic research, of course, is the resource of tomorrow's technology and therefore of tomorrow's industry and quality of tomorrow's life in many ways. Events have in the past stimulated our commitment to research, and perhaps the energy crisis will provide such a stimulus in the future. I think it is too soon to provide any answer to that question, but certainly a lot of the research in energy matters is being done outside the universities, and government seems to be willing to fund that research outside the university along with that which takes place inside.

Another responsibility that I feel the universities have ignored too much is the whole view of education, particularly the elementary and secondary schools. It is no secret that in their period of rapid growth the colleges and universities found
themselves doing much that could have been done in the earlier level of the school system. Part of the great unfinished business of our colleges and universities today involves more intensive research on an improvement in the learning process as this occurs throughout human life. I think we have been quite negligent in the amount of attention we have devoted to that process. We can find much better materials in other societies than in our own. Our society is increasingly a complex society in function, and all within it requires a mastery of certain skills of communication, reasoning ability, etc. When the Russians began to build their educational machine they felt it was based first and most intensively upon the elementary grades. They did rather intensive research into what constituted learning, how it could be achieved most readily and so on. It is not at all the machine type of process that we oftentimes like to imagine takes place in the totalitarian society. Basic research dealing with the learning process and the effective training of teachers has just never received the attention it deserves in our system. We are in need of more faculty and research dollars all the time. Unfortunately, we are not given as much as we need.

The world we live in is increasingly a product of the human intelligence. I recall one time in my first economics course that the professor asked that we list the basic natural resources, and I was somewhat disturbed with the fact that he omitted the human intelligence as a natural resource. That’s not what we’re talking about, but it is very important, the most important of all of our natural resources. Without that there are no resources in the sense that we use the term. The black stuff that we call oil is simply a liquid that muddies up the watering hole without the intelligence to find a use for it. Anyway, since the world is a product of human intelligence, the ability to function therein, especially on the managerial level, is going to require more information about the nature of the world. That is going to require, I think, some curricular reform within the educational system.

I feel that the gross permissiveness that you now find in higher education is simply a reflection of the movement for teams that is taking place—the dissatisfaction with the old system, yet not finding a way of expression with a new pattern of learning. Those things have happened throughout the history of higher education, throughout its 800 years. You’ve encountered fears of uncertainty and things became more. The postwar history was simply a prelude to the later restructuring of the learning process, and I feel that will certainly occur again. Once again the question is whether we in the university control the process or have it imposed upon us from the outside.

Well, if the world we live in is increasingly a product of the human intelligence, one of the results of that is that it is increasingly one world. One of the most disturbing facts about the educational process today is that it becomes increasingly international. The most urgent problems we face today almost all require international solution. We aren’t really developing the mental set, the types of communication skills and so on, that would help us find international solutions. Although in the last few years we have almost come to revere Secretary of State Kissinger (I guess we are losing some of that now), his statecraft is of a style that grew out of the nineteenth century and not really very well suited for statecraft in the type of multinational world in which we live. Essentially, Kissinger still is making a few national solutions as opposed to international solutions. We responded to the crisis of the 1930s by cutting ourselves off from the rest of the world and trying to solve our own problems, ignoring those of the rest of the world. That simply cannot work today, and the university of the future must be increasingly international in the scope of its concerns. The educational system that we have must increasingly become an educational system opposed to different elements that we suppose will somehow link together as one of the primary degrees and progress through the upper degrees as far as it can go. One thing we can say for sure is that, while the university of the future will be a different type of place from what it is today, its basic mission will remain pretty much the same: to preserve, transmit, and improve that intellectual component of our intellectual heritage.

The emphasis in the last few years has been on the transmission of that knowledge, the teaching
function. It must be recognized more and more—and we must do a better job of selling our society on the fact—that the preservation of knowledge and the improvement of knowledge are also vital concerns for the society and the functions that the universities are best suited to perform. I do believe that the university of the future will manifest a more explicit acknowledgment of the humanistic aspects of its activities. As I understand the language, "to humanize" means to emphasize and develop those characteristics which are peculiar to man. The basic one of these, I think, is man's culture-building capability, the capacity that makes civilization possible. I think that in the past those elements have been too closely tied to a particular group of studies which we call the humanities, whereas all studies should be humanistic in the sense that I use the term. I think that universities have a great deal in the way of opportunities, challenges, opportunities, yet to be realized. We still have a ways to go to realize the promise of universal access to higher education for all of our youth. I'm not saying every kid should attend college; but universal access is, I think, required. We have an obligation to improve all levels of education, with special emphasis upon the interrelationship between the units of the elements of higher education totally.

We have the chance for the first time ever in any civilization to do what the role said should be done many years ago: to make learning a lifelong process. Of course, more and more schools are doing that, although I sometimes think it is an economic imperative, rather than a commitment to the fundamental ideas, that propels them to do it. More than any of those things, though, the university has a very important role in trying to improve, to replan, to rethink the questions of quantitative growth and trying to reinterpret those problems with the ideas of qualitative improvement. All too often the role or the educational mission of the university has been thought to be one of making it possible for man to live better in the sense of an economically better life. But the real mission is to help man live a better life regardless of what the economic level really is. As I said before, the basic mission of education today remains the same as it has been for the last 800 years: to emphasize the uniquely human aspects in life. There have been periods where we have strayed away from that, but it has always come back to be the core of the university's activities. It was the mission that prompted the university's origin. I think that emphasis on the uniquely human aspects in life is the core, the core meaning of humane learning.
The Heritage of Dress as Design Inspiration*

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With the mixed cultural background that is found in Hawaii the question that develops is: How does one design garments from the heritage dress? I have concluded from extensive analysis of designs that there are three basic methods, as follows:

1. Direct translation of heritage dress. This method can be used only if the lifestyle of the heritage dress period is like today's lifestyle. A few of the difficulties that arise in line-for-line duplicating are:

   a. There are few periods in history where the mores and dress of a society were in as relaxed a state as we have today.

   b. The modern figure does not have the same physical build or shape as figures in former generations.

   c. Today's textiles do not have the hand of their historical counterparts and will not perform in the same way.

2. Translating details from heritage dress. Details can include applied motifs, fabric design, pattern design, construction, or anything on the garment. This method allows limitless possibilities and freedom for the designer.

3. Creating a "feeling" in today's fashions through "feelings" of heritage dress. Translation of a feeling or attitude is very subjective and more directly related to the designer's creative ability. This method is the most subtle and the most difficult to achieve.

Although it is easy to define three separate ways of designing, in actuality methods can and do overlap. The combination of "detail" and "feeling" is found quite often. In the following examples I have tried to show the three separate design methods. Some of the designs illustrate a combination of methods.

Figure 1 shows an 1820s dress. For the line-for-line copy the designer chose a calico print cotton fabric and updated the fit to make this style wearable today. The trim detail used is self fabric gathered to shape.

"Iolani Palace" (Figure 2) incorporated details from this 1920s evening dress (Figure 3), including the high neck, lace yoke and sleeves, narrow shoulder detail, and the circular ruffle at the lower sleeve. The bias bands joined by faggotting on the 1900 blouse (Figure 4) inspired the neckline of the garment shown in Figure 5.

*Slides were used in presenting this paper.
In Hawaii we have something special. Our island dress is unique. The missionaries arrived in 1820 only to find the Hawaiian ladies already dressed in the fashion of the day (Figure 6). Contrary to popular myth, the missionaries did not design clothes to cover the nakedness of the ladies. They created garments because the Hawaiians wanted to dress like the newcomers, and their problem was constructing dresses to fit ladies up to 300 pounds. The missionaries solved this by raising the waistline—thus using the “Mother Hubbard” style (Figure 7). In Hawaiian terminology this garment was called a holoku and was worn when the ladies went out of their houses. A simplified version of this style was called the mu’u mu’u and was a utility garment worn for sleeping, as a slip, or for swimming. It was never worn in public.

During the 1880s and 1890s when western dress featured the high neck, leg-a-mutton sleeve, and gored skirts with sweeping trains, the Hawaiian ladies had their holokus designed with these features (Figure 8). As time went by the term “holoku” referred to the gown with the long train and has been reserved for formal Hawaiian wear today and is the traditional Hawaiian wedding gown. Our student designer has translated the 1890s look into modern fashion by flaring the high collar and scaling down the puffed sleeves but keeping the regal “feeling” by the attached train (Figure 9). Over the years the term mu’u mu’u has been applied to the gown without the train. The mu’u mu’u in Figure 5 was designed with the gored back along the 1890 pattern lines to produce the “feeling” of the sweep of the train, however.

Feather cloaks (Figure 10) were the most magnificent items in the wardrobe of pre-European Hawaiian chiefs. These cloaks, each different, used up to 485,000 feathers knotted onto a net backing. The modern mu’u mu’u is no longer limited to the “Mother Hubbard” or 1890 styling but is designed from inspiration gathered from all periods and from around the world. The design motifs as well as the royal colors used for the feather cloaks were the inspirations for the mu’u mu’u in Figure 11.

There is a third style of Hawaiian dress. It is the holomuu. In 1949 a merchant created this new version by taking the traditionally fitted holoku and cutting off the train. This made the garment the length of the mu’u mu’u. Thus the name “holomuu” (Figure 12). Our student designer updated the holomuu with the reverse draped halter (Figure 13). While incorporating the detail of the torso shape she translated the “feeling” of the train by design of the circular flounce.

I hope this presentation has enabled you to see further possibilities in designing from heritage dress.
Effectiveness of Commercial Stain Removers

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and
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Stains on fabrics have been a problem for generations, and thus stain removal has been of constant concern to consumers. One recent study conducted at the International Fabricare Institute developed simple methods of stain removal that can be used in the home. This study, however, did not use commercial removal agents available in the supermarket. Further investigation showed that little research has been done on stain removal based upon the commercial products available to the consumer. Because of this, the purpose of this study was to evaluate the effectiveness of selected commercial stain removal agents on three widely used types of fabric—cotton broadcloth, 65 percent polyester/35 percent cotton blend, durable press finished broadcloth, and polyester double knit.

Procedure

The first part of the project was a descriptive study to identify those stains which were considered by consumers to occur most frequently and which were most difficult to remove. In order, the ten stains selected by the consumers questioned were: blood, grass, cooking oil, tomato-based products, felt-tip ink, automotive oil, chocolate, fruit juice, margarine, and household oil. The consumer questionnaire identified the most widely used commercial stain removal agents in each of the following categories: pre-soaks (BIZ), bleaches (Clorox liquid), liquids (Easy Wash), aerosols (Spray 'n Wash), stick removers (Stain Erase), and detergents advertised as spot removers (Wisk).

Each staining agent was applied to seven randomly selected specimens of each of the three fabric types using a process to insure equivalent size stains and even distribution and pressure. One specimen was kept as a control for comparison, three were stored for one week before laundering (as might be done in the family washing procedure), and the last three were treated and washed within thirty minutes. Thus we were looking at effectiveness of removal of set stains and of fresh stains.

Stain removal treatment was that recommended by the manufacturer on the container—spraying, rubbing in, soaking, etc. Specimens were then laundered and dried following AATCC home laundering procedures. The cotton specimens were so wrinkled that ironing was required before they could be evaluated. The others did not require ironing. The laundered specimens were evaluated by a panel of three judges using the stained but untreated specimens as a comparison. Ratings were from five as excellent effectiveness of removal down to one as poor effectiveness of removal.

Findings

The findings of the study, in general, were as follows:

1. When time before treatment and fabric were the only variables considered, fresh stains scored consistently higher ratings for removal than did set stains. This factor of time was more important on the blend.
fabric, with the cotton fabric of intermediate importance, and the polyester fabric least important.

2. Stains were more easily removed from the polyester fabric than from the blend or the cotton. In the polyester fabric oil-based stains were more of a removal problem than water-based stains. Removal of most stains was successful on cotton. The problem fabric in stain removal was the durable press blend, especially with the set stains.

3. Across all the stains, Clorox had the highest number of “excellent” ratings and Wisk the highest number of “poor” ratings. Spray ‘n Wash had the best all around scores of all the removers.

4. When the stains were considered separately, time was especially important in the removal of blood stains, regardless of the fabric. Blood stains should be removed as soon after they occur as possible.

5. The enzyme pre-soak BIZ was especially effective in removing blood stains, whether fresh or set. BIZ was also very useful in removing ink and grape juice from the polyester fabric; however, it was of little help in removing any of the four oil-based stains used.

6. Clorox did a good job on the colored stains, such as fruit juice and chocolate. Clorox had low ratings on the four oil-based stains. It did produce satisfactory removal of fresh tomato-based stains.

7. Easy Wash worked especially well on oil-based stains and blood.

8. Spray ‘n Wash was the only agent that was even partially successful in removing the automotive oil stain. The other oil stains were successfully removed.

9. Stain Erase worked on many of the stains when they were treated fresh, with automotive oil remaining the major problem. There were much less satisfactory results with the set stains.

10. Wisk was the least effective agent used. However, in some cases it did better on set stains than on fresh ones. It removed household oil and did a more effective job on tomato-based stains than did many of the other products.

11. Clorox, BIZ, and Stain Erase were the most effective removers for grass stain.

12. Spray ‘n Wash was highly effective in removing tomato-based stains from the blend and the polyester. BIZ was the least effective agent on these stains.

13. Clorox was the best of the products in removing ink and grape juice, and Wisk was the worst. Clorox was also the most effective agent in removing chocolate.

14. Spray ‘n Wash produced the most satisfactory results on margarine stains; BIZ gave the least satisfactory results on these stains.

In summary, no one stain remover of those tested was adequate in removing all stains. The enzyme pre-soaks worked best on protein-based stains. Clorox was most effective in removing stains whose very nature was based on color. Spray ‘n Wash, a perchloroethylene solvent, was highly successful in removing oil-based products. Therefore, consumer would need to select commercial stain removal agents considering the types of stains causing the most trouble in his or her family’s laundry.
This paper will present sections from a manuscript titled "The Consumer Speaks" by B. Jean Margerum, Norma E. Walker, and Marilyn J. Horn.

Home economics educators and researchers must know consumer problems in clothing and textiles to identify the major thrust for educational programs and for further pertinent research. As new textiles have been developed, various performance problems were recognized and many have been controlled. The efforts of textile researchers and reliable manufacturers not only have produced a variety of fabric choices but also have provided fabrics with extended wear-life and minimum care requirements. It is probable that most of the fabrics available in the market today more than meet consumer satisfaction levels.

The effect of various forces such as affluence, changes in social values, and technological advances have provided for rapid fashion change along with equally rapid dissemination of new style ideas via mass media. Watson* felt that all of these changes may have offset the values of extended fabric wear-life made possible by technological improvements. As Marilyn Horn has commented, "It cannot be ignored that today's consumer of clothing may no longer be greatly concerned with the problem of how long a garment or fabric will wear, but, rather, how long the style will wear. Indeed, tomorrow's consumer may demand clothing durability standards keyed to fashion life standards!"

It was with these thoughts in mind that this project was developed as part of the Western Region Project, WRCC-9, "Relationship of Environment to the Utilization of Textiles and Clothing." The objectives of the study were to learn reasons for dissatisfaction and discard of clothing directly from consumers, as a basis for product improvement by manufacturers and to give direction for clothing research and for educational programs.

A pilot study was conducted by home economics researchers at the agricultural experiment stations of nine western states; the University of Alberta in Canada also participated. The responses of 161 women to an open-ended interview concerning clothing problems in all categories of family clothing were used to refine the instrument. Due to limited time remaining after completion of the pilot study, the interview schedule was revised to consider only men's business clothing. Little research has been done on men's clothing or by interviewing men directly to learn their values. Men's business outerwear was selected for study because it must take daily hard wear yet retain good appearance. Therefore, the combined effect of social and physical factors could be included.

Participating agencies for the revised interview study included home economics clothing and textile researchers for the agricultural experiment stations of the University of Nevada, Reno; Utah State University, Logan; and Texas Tech University, Lubbock. For the sample, two hundred businessmen were selected, using a systematic sampling procedure from the three city directories according to occupations listed. One hundred eighty-seven interviews were completed. Only males who wore business suits or sports coat-slacks combinations during working hours were interviewed. All of the interviewees were married, but no controls were placed on education, family size, or income.

The following three questions were asked the interviewees: (1) If you could talk with a clothing manufacturer, what would you tell him causes your greatest dissatisfaction with clothing? (2) What items of business clothing have you discarded in the past year? (3) What items of business clothing are hanging in your closet that you have not worn in the past year?

The responses to the questions were categorized under two major headings, as follows: (1) physical factors inherent to physical aspects in fabric or garment, such as color change, maintenance, comfort, fit or size and signs of fabric deterioration, and, (2) socio-psychological factors which can be attributed to aesthetic, emotional, or other judgmental processes.

The data from the three stations were first analyzed separately, but when similarities in consumer responses were shown the data from the three stations were combined to provide a broader scope for the summary of the study.

When given a chance to voice dissatisfaction with their business apparel, the men interviewed for this study verbalized mainly physical factors (see table). These physical factors were mainly in the areas of durability of garment and fabric, and particularly cited were poor construction for shirts and suits and snagging for pants, suits, and sport coats.

Physical reasons for discard were fewer than the physical reasons for dissatisfaction. Garments were discarded mainly because they were worn in general—frayed, torn, or had holes. The major physical reasons for disuse, which were far less frequent than the reasons given for dissatisfaction or discard, were mainly due to weight loss or gain.

While the reasons categorized as socio-psychological, such as style loss or dislike of color or style, were extremely low for dissatisfaction (see table). These reasons were more numerous for reasons for discard, especially for the big-ticket items of suits and sport coats. As the table indicates for all clothing categories, reasons for disuse of the garments were clearly due to socio-psychological reasons. "Out of Style" was the major reason verbalized for shirts, pants, suits, and sport coats in the socio-psychological categories.

In other words, the men gave lip service to the physical faults of clothing as the primary reasons for garment dissatisfaction, yet the specific reasons given for not wearing or getting rid of clothing, which may be taken as a measure of actual behavior, were basically fashion-related.

Based on the findings from this study, it would seem that emphasis in research and teaching should be to help males recognize their clothing values and to consider fashion-life as a critical factor in the selection of business apparel for males.
## REASONS FOR DISSATISFACTION, DISCARD & DISUSE
### OF MEN'S BUSINESS OUTERWEAR

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The purpose of the research was to investigate the relationships of selected measurements to predict bodice and skirt seam slants and amount of front and back waist darting needed for a basic pattern and to see if certain measurements were better predictors than others for these features of the basic pattern.

Participants for the study were fifty students in the pattern design and fitting classes at Utah State University. Individual figure measurements were taken at the time the basic garment was evaluated for fit on the individual. They included the width, depth, and circumference measurements of the bust, waist, and hip. These were compared with measurements taken from the participants' basic patterns after the pattern had been checked and corrected by the instructor of the classes. The pattern measurements included those taken from CF and CB along the bust and hip lines to the side seam, side seam slants of bodice and skirt, and amount of front and back waist darting needed for the skirt and bodice, how far down the bustline was from the armsye side point, and how far down the hip line was from the side waist point.

Stepwise multiple regression was used to determine if the figure and pattern measurements taken predicted the bodice seam slants and the front and back waist darts. Results for all areas investigated were reported using nine variables, using either two or three of the most important variables and using just the one most important variable. The bodice seam slant and the front waist dart were found to be highly predictable for the individual within the sample using the nine measurements with R² values of 0.8825 and 0.7262 respectively.

The bodice back waist dart was found to be not predictable using the measurements taken. With nine measurements the R² value was 0.3172. The skirt seam slant and the front and back skirt waist darts were found to be not very predictable. With all the nine measurements the R² values were only 0.4030, 0.1415, and 0.3324 respectively.

Pearsonian product-moment correlation coefficient was used to determine if relationships existed between the figure and pattern measurements. It was decided that correlation should be at least 0.75 in order that a relationship be classed as meaningful. Eleven such relationships were found to exist between the bust and waist measurements.

Bust to waist measurement relationships: Bust width to bust circumference (0.92). Bust width to waist width (0.87). Negative correlation of bust width to CF measurement to side seam along bust line (−0.81). Negative correlation of bust width to CB measurement to side seam along bust line (−0.82). Bust depth to waist depth (0.85). Bust circumference to waist width (0.89). Negative correlation of bust circumference to CF measurement to side seam along bust line (−0.76). Negative correlation of bust circumference to CB measurement to side seam along bust line (−0.78). Waist circumference to CF measurement to side seam along bust line (0.97). Waist circumference
to CB measurement to side seam along bust line (0.97). CF measurement to side seam along bust line to CB measurement to side seam along bust line (0.99).

Hip to waist measurement relationships: Waist width to waist depth (0.86). Waist width to waist circumference (0.80). Waist depth to waist circumference (0.81). Waist depth to hip depth (0.80). Waist depth to hip circumference (0.80). Waist depth to CB measurement to side seam along hip line (0.77). Waist circumference to hip circumference (0.76). Hip width to hip depth (0.76). Hip width to hip circumference (0.89). Hip width to CB measurement to side seam at hip level (0.79). Hip circumference to CF measurement along side seam at level (0.77). Hip circumference to CB measurement along side seam at hip level (0.88).

Different relationships were found to exist between the bodice and waist measurements and skirt and waist measurement although similar measurements were taken for both.

All relationships reported are positive except for four in the series of the bust to waist measurements. These negative relationships indicate that as one measurement increases its relation to the other measurement decreases. It was found that as the bust width increased the center front measurement to the side seam along the bust line and the center back measurement to the side seam along the bust line decreased in its relationship. Also, as the bust circumference increased the center front measurement to the side seam along the bust line and the center back measurement to the side seam along the bust line again showed a decrease in relation. This negative relationship reveals that when three-dimensional width increases the corresponding two-dimensional width decreases in relation to it.
New Insights Into Meaning of Masculinity and Femininity in Dress

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and
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University of Saskatchewan
Saskatoon, Saskatchewan, Canada

In the context of a study of the process of how children learn to equate dress, behavior, and biological sex in a culturally determined manner the authors were presented with some serendipitous findings which provided new insights into the meaning of masculinity and femininity in dress. By accident, a persistent and consistent meaning of the concepts of masculine, feminine, and ambiguous dress was discovered to be operating throughout the preliminary research.

A bipolar, five-point scale consisting of garments representing a range from distinctively male to distinctively female was developed for use with the children. During this process, which was systematically controlled for season, color, age (size), posture and physical body, and assumed culturally appropriate sex definition of the garments by outside criteria, respondents reached 100 percent agreements of distinctively male, distinctively female, and ambiguous dress. Garments consisted of an upper and lower body covering which were being offered to the consumer as a single unit, separate or attached.

Analysis of the garments by scale category revealed no consistent trends when measured according to traditional features which were thought to distinguish male from female garments—i.e., soft fabric, straight lines, buttons, applied details (see Table I). Further analysis which revealed greater inconsistency among the respondents on the male side of the scale did not account for the greater consistency by which garments were placed in one of the scale categories. Subsequently, interviews were held with respondents in an effort to determine the criteria they used to identify what was distinctively male and distinctively female. The result of these interviews was the identification of the concepts of “formal” to define the outer scale categories and “casual” to define the inner categories.

The Experiment

Hypothesizing that there would be no correlation between the scale positions of the garments when sorted according to degree of masculinity-femininity and when sorted according to degree of formality-casualness, six of the respondents and an additional six who had not previously seen the drawings were tested about twelve months later. Randomization was as before.
Two scores were computed for each garment by transmuting the average of the scale category distribution to a numerical value for statistical comparison.

The Results

There were no statistically significant differences between the respondents who had participated in the first test and those who participated in the second test only. Thus, any correlation between the two sets of scores could reasonably be attributed to a consistency of the cultural conception of a relationship between formal-casual on the one hand and masculinity-femininity on the other—but for this population only! Using the Pearson correlation between the two variables was found to be .84, which was significant at the probability level of .01. Thus it was reasonable to reject the hypothesis.

Discussion

In attempting to integrate the findings into an explanatory framework, the researchers found published material on masculinity and femininity in dress to be overwhelmingly untested theory, personal opinion, or illustrative anecdote based on little or no systematic research. In particular, exposition of clothing as a symbol of masculinity-femininity provided no framework at all. For this reason, and others discussed elsewhere, it would seem that the symbolic function of clothing in this regard is not clearly delineated or understood. And, quite contrary to suggestion, this study would seem to indicate that dress is not in and of itself a symbol of maleness or femaleness; rather, it may sign the male and female and be symbolic of expected behaviors. That this may very well be the case has been suggested by Anspach (The Way of Fashion, 1967), Winick (The New People, 1968) and Laver (Modesty in Dress, 1969).

The work of these authors cannot be discussed here in relation to the present study. Nevertheless, it has been instrumental in leading the researchers to conclude that further study with American respondents, male respondents, different age groups, and broader populations and with other concepts which might define the meaning of masculinity and femininity in dress must be made before we can infer that dress is a symbol of masculinity and femininity.
### TABLE I

Design Details Consistent in a Simple Majority of Garments Classed in Three Scale Categories

<table>
<thead>
<tr>
<th>Distinctively Male</th>
<th>Ambiguous</th>
<th>Distinctively Female</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whole garment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divided waistline</td>
<td>Divided, not waist</td>
<td>No waistline division</td>
</tr>
<tr>
<td>Large scale print</td>
<td>Mixed size print</td>
<td>Small scale print</td>
</tr>
<tr>
<td>Crisp fabrics</td>
<td>Soft fabrics</td>
<td>Drapy fabrics</td>
</tr>
<tr>
<td>No gathered parts</td>
<td>Gathered parts</td>
<td>Gathered parts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lower garment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pants only</td>
<td>Pants</td>
<td>Skirts only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Upper garment:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loosely fitted</td>
<td>Shaped</td>
<td>Closely fitted</td>
</tr>
<tr>
<td>Rib emphasis</td>
<td>Mixed emphasis</td>
<td>No rib emphasis</td>
</tr>
<tr>
<td>Breast emphasis</td>
<td>No breast emphasis</td>
<td>Above breast emphasis</td>
</tr>
<tr>
<td>Necklines</td>
<td>Mixed size</td>
<td></td>
</tr>
<tr>
<td>Narrow</td>
<td>Mixed types</td>
<td>Wide</td>
</tr>
<tr>
<td>Collared</td>
<td></td>
<td>Not collared</td>
</tr>
<tr>
<td>Button closures</td>
<td>Partial button</td>
<td>No button</td>
</tr>
<tr>
<td>Buttons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. over R.</td>
<td></td>
<td>R. over L.</td>
</tr>
</tbody>
</table>

![Diagram of garments](image)
Fitting is a nebulous operation that is difficult to explain and an almost impossible task for the novice to attempt. Throughout the literature, fitting is referred to as an “art”—“a mysterious art”—where success may be gained only by experience.

Before coming out West to Utah State University, I thought I was somewhat of an expert at fitting, having had my own custom design business and taught clothing construction for a number of years. All I can say is that I’ve since learned a lot. There seems to be a lack of theoretical application at the university level in fitting garments. Textbooks and workbooks invariably treat fitting as a cause/effect problem—figure defects plus remedies to eliminate bags, pouches, pulls, and strains. As Bray suggests in *Dress Fitting: Basic Principles and Practice*, pictures tend to be diagrammatic and photographs too detailed. They may be misleading; a problem apparent in one area may be the result of a problem in another area.

With this in mind, a modular package was developed at Utah State. It was designed in two separate slide/tape presentations. The first, Module A, primarily informational, built on fitting principles set forth by Mabel Erwin in *Practical Dress Design*. The material has been used in the pattern design and fitting course at USU for some time. Erwin’s five “clues to fit” had been translated into Five Factors of Fit with standards outlined for each of these—set, balance, grain, ease, and line.

The first module has been and may be used in lieu of a lecture as sort of an introduction to the subject of pattern design and fitting. It starts at the beginning—showing the tools of the trade, explaining two dimensional form, etc. Problems are presented and solutions set forth in the simplest form possible in relation to the principles and standards—that simply being an addition or deduction of length or width. It is designed for student appeal—music, zingy drawings, a really cute model! That is only the first step.

Fitting is a psycho-motor skill. I don’t know whether you’ve thought about that before, but it is really a neuro-muscular activity. As Dr. R. H. Dave says, the first steps of learning in this area are guided instructions or imitation, repeating what you see. This progresses to learning transfer, precision, and articulation—and perhaps on to the highest level of naturalization.
What better way then to capsulize the application of the fitting factors than in a self-paced slide/tape presentation of a fitting problem that the student actually works through? This is Module B, Fitting Phenomena. The module incorporates four fitting problems. A half-scale replica of a real deviant figure is used with accompanying standard half-scale dress. A work sheet is also provided the student—or group of students.

The students pin the garment on the figure and find, of course, that it doesn't fit. The tape assures them that it's supposed to look that way. Then they go about the tasks of ripping and pinning as suggested by the tape. Both length and width problems are incorporated. I threw them a curve ball—the correction of the first two problems creates a third. The instructor's judgment is the success criteria for the pinned garment.

The modular presentation was tested this summer at USU with a group of girls in the area who had previously taken the HECE 260 Pattern Design and Fitting course. A pretest and posttest were given. Questions were compiled from a test previously administered in the class. Using the technique of Least Significant Difference, original, pretest, and posttest scores were compared. Results indicated that with the aid of the combined modules, students performed as well as on the original test—which for some had been taken as long ago as two years. In other words, there was no significant difference in original and posttest scores. Pretest scores showed a significant difference with both original and posttests. It is interesting to note that students who had taken the fitting class the previous quarter averaged below the overall pretest average; this says something about learning retention.

A questionnaire in the form of an evaluation was also administered to the students. Results indicated they felt a need for the addition of a modular presentation such as this in the classroom.

Perhaps the most important aspect to the study was the criteria-based test which was built into the checksheet. Modular success was predetermined to be 80 percent accuracy by 100 percent of the students. This criterion was met.

The modules are currently in operation at Utah State University. I have just completed using them in my pattern design class at Weber State College. All I can say is that it's exciting to see them in operation. At some future date it would be great to have perhaps as many as four different Module B's—presentations involving other figure problems. This would add variety to the program, providing a means for further fitting experience. What we have now is only a starter, but it works!
A Research Review of an Instructional Design for Developing Recognition of Selected Figure Use

Colleen M. Carr
Ohlone College
Freemont, California

The instructor who teaches the concepts of garment fitting is challenged to assist students to perceive the figure variations of each individual. In order to develop this ability to recognize the myriad of figure variations, the researchers believed that the most effective technique would be the visual presentation on slides of actual figures with selected variations.

Six variations (large bust, asymmetrical low shoulder, asymmetrical high hip, wide waist and wide hips, long waist, and sway back) which depicted some of the most common problems found in classroom fitting were filmed. The medium of slides was chosen because it offers greater flexibility for adaptation and correlation to lecture and demonstration materials wherein the slides can be rearranged and changed as appropriate. Additionally, slides provide sensory learning experiences which cannot be easily achieved in coeducational classes by live demonstrations. An audio tape was provided to enhance objectivity and for possible use in individualized instruction.

The color choice for filming was made after testing a variety of light and medium colors in several fabric types. Medium turquoise wool flannel appeared to photograph most clearly with the best definition of wrinkling. The six variations were filmed using this fabric. One disadvantage the researchers noted was the lack of resilience in the fabric. This problem was intensified by the requirement of having garments fit very tightly to the figure in order to eliminate all wrinkles except those demonstrating the problem. A more firmly woven or knit fabric would be suggested for future experimentation.

The results of the study indicated that optimum usage of this tool would be achieved when used in conjunction with classroom lecture and demonstration. The writer has had most satisfactory results over a three year period in a community college classroom with students of varied garment construction experience. The students have indicated that the slide/lecture presentations have greatly improved their perception of figure variations in general and specifically enhanced recognition of the depicted problems.
Making Corded Buttonholes*

Hattie S. Roberts
Professor
Department of Clothing and Textiles
El Camino College
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In twenty-seven years of college classroom teaching, I have been continuously frustrated by the lack of visual aids for clothing construction. I have found available films and film strips too limited, too elementary, and too inflexible to meet the needs of the students or teacher. I am offering my couture techniques to help fill the needs of the classroom teacher and for use in less structured teaching and learning situations. I chose captioned slides as the medium for my lessons because of their advantage to the teacher and in spite of the greater expense to produce them.

Each slide is sequentially numbered. The lesson title is included on the frame. An indexed sheet is included, identifying each slide by topic as illustrated. This careful labeling allows the teacher to use a portion of one lesson to teach a single part of garment construction or to combine segments of several lessons to teach a unit and then easily return them to the proper carousel. Each set includes a lesson guide sheet for the teacher which provides suggestions for a lesson plan, objectives, and student assignments and lists slide numbers which illustrate each unit of the lesson. Lessons are designed to train the student in the modes a professional dressmaker would use to make the most of her precious time and motions while she creates couture quality garments.

I have edited out all distracting elements, except the planned presentation. This brings the students into the position where they cannot be distracted by the date of the garment silhouette, by backgrounds, or by personalities. The student has a direct view of the hands, the sewing machine foot, the stitches, or other manipulations required to complete each operation. Placing these carousels in the school library or other learning center where the students can view them independently enable slow learners or absentees to study at their own pace. These slides are recommended for beginners, for intermediate students, and as an advanced review. All presentations are also available in Spanish.

I have selected as my first lessons Making Corded Buttonholes and Hand Stitches Used in Fine Garment Finishing because teaching these by personal demonstration, charts, samples, etc., has been so frustrating. I am showing the buttonhole lesson at the ACPTC conference as it illustrates what I think are the best solutions to the need for clear, intimate viewing of complex and intricate construction details.

Other work in progress includes Why Not Make It Easy for Yourself, More Ways to Make It Easy, Couture Seams and Edges, Making Skirts and Trousers the Custom Tailor’s Way, Making a Coat: Dressmaker Tailoring, Tailoring Men’s Jackets the Traditional Way, and How to Prepare the Fabric Before Layout and Cutting.

*Slides were used in presenting this paper.
Teaching Tools for Merchandising*

Janet J. Else
Department of Textiles and Clothing
Colorado State University
Fort Collins, Colorado

If you've ever had a homemaker call you on the phone and ask you if you could tell her how to put in a zipper, you know the feeling I am experiencing right now. It is difficult to talk about something when I am unable to show you the end result. The teaching tools we are talking about this morning are films that have resulted in color video tapes to be used on a TV monitor in the classroom.

At Colorado State University we have approximately 350 textiles and clothing majors. Well over half of these are merchandising majors. Several years ago it became rather clear to us that our students were going out not knowing very much about the product they were merchandising—mass produced clothing. Because in Colorado we do not have an abundance of the apparel industry, other than ski wear and western wear, we decided to bring industry to the classroom.

Our plan of attack was to make arrangements for filming various segments of merchandising, as follows:

1. Fiber to Fabric—Spring Mills, North and South Carolina
2. Fabric to Garment—Jantzen, Inc., South Carolina
3. Garment to Retail Outlet
   a. Distribution Center—Jantzen, Inc., Lincoln, Nebraska
   b. Merchandise Mart—Jantzen, Inc., Denver, Colorado

All film footage has been shot, the Merchandise Mart video tape is completed, and scripts are presently being written for the other segments. Since our facilities here do not allow for showing video tapes, I will use a collection of slides to give you some idea of the subject matter included in the film footage. Remember these are stills; the video tapes are moving.

*Slides were used in presenting this paper.
FINANCIAL REPORT—SEPTEMBER 29, 1975 – OCTOBER 1, 1976

Balance on hand September 29, 1975 .................................................. $1,783.85

Receipts

Interest on savings ................................................................. $  82.56
Memberships .......................................................... 485.00
Registration fees, etc. (Wyoming Meeting) ...................................... 1,531.00
Total ........................................................................... $2,098.56

Cash Available .................................................................. $3,882.41

Disbursements

Travel .......................................................... 243.00
Telephone .............................................................. 16.65
Stationary, postage, printing ............................................... 163.46
Expenses (Wyoming Meeting) .................................................. 1,318.21
Preliminary arrangements for 1976 meeting .......................... 500.00
Share in publishing joint proceedings .................................... 371.05
Total ........................................................................... $2,612.37

Balance on hand October 1, 1976

Checking account .................................................. 270.04
Savings accounts .......................................................... 1,000.00
Total ........................................................................... $1,270.04

Submitted by Clara Fink, Treasurer.
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