ACPTC COMBINED REGIONAL MEETING PROCEEDINGS

1981

Association of College Professors

of

Textiles and Clothing, Inc.
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Central Region
RESERVE CONSUMPTION

Wednesday, October 28th

1:00 - 3:00 pm
Tour of Jefferson Memorial Museum Collection

1:00 - 5:00 pm
Tour of Plaza Frontenac Mall

2:00 - 4:00 pm
Tour of Angelica Uniform Co.

5:00 - 7:00 pm
Council Meeting

8:00 - 10:00 pm
Reception

Thursday, October 29th

8:30 - 10:45 am
"Clothing, Textiles and Quality of Life: Rationale and Context for Professional Concern"

Presiding: Patricia Horridge, ACPTC-CR President, Texas Tech University
Moderator: M. Suzanne Sontag, Michigan State University
Participants: "Quality of Life: Theory, Indicators and Goals"
Kathryn D. Rettig, University of Illinois at Urbana-Champaign
"Clothing and Perceived Quality of Life"
Ann C. Slocum, Michigan State University
"Influence of Changing Resources on Clothing, Textiles and the Quality of Life: Dressing for Reality, Fun, and Fantasy"
Joanne B. Eicher, University of Minnesota
"Consequences of Program Development in the '80s"
Barbara S. Stowe, Michigan State University

Panel Discussion of Issues Raised by Audience

10:45 - 11:00 am
Beverage Break

11:00 - 12:00 noon
Business Meeting

12:00 noon-2:00 pm
Luncheon

Presiding: Betty Wass, ACPTC-CR Council Member, University of Wisconsin at Madison

Addresses: "Resource Exhibit 1981", Elizabeth McCullough, Kansas State University
"The Impact of Formality and Similarity of Attire on Observers' Descriptions of Business Interactions: A Content Analysis Approach"
Mary Lynn Damhorst, 1981 ACPTC-CR Fellowship Recipient, University of Texas at Austin
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<td>1:30 - 5:30 pm</td>
<td>Resource Center</td>
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<td>2:00 - 3:30 pm</td>
<td>Special Interest Group I</td>
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<td>A. &quot;Textiles' Role in an Energy Conscious Society&quot;</td>
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<td>Group Coordinator: Deanna M. Munson, Kansas State University</td>
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<td>B. &quot;Computer-Aided Instruction&quot;</td>
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<td>Group Coordinator: Grovalynn Sisler, Oklahoma State University</td>
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<td>3:30 - 3:45 pm</td>
<td>Beverage Break</td>
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<tr>
<td>3:45 - 5:15 pm</td>
<td>Special Interest Group II</td>
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<td>A. &quot;Research in Retailing: Directions For The '80s&quot;</td>
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<td>Group Coordinator: Sara Douglas, University of Illinois at Urbana-Champaign</td>
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<td>Group Coordinator: Margaret Ordonez, Kansas State University</td>
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<td>7:00 - 9:00 pm</td>
<td>President's Banquet</td>
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<td>Presiding: Mary Littrell, ACPTC-CR President-elect, Iowa State University</td>
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<td>Addresses: &quot;Teaching, Research, Service, and the ACPTC&quot;</td>
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<td>&quot;ACPTC: Regional/National Perspectives&quot;</td>
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<td>Lois E. Dickey, ACPTC 1981 President, The Ohio State University</td>
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<td>8:30 - 9:50 am</td>
<td>A. Textile Science</td>
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<td>Presiding: Carolyn Callis, University of Texas at Austin</td>
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<td>8:30 - 8:50 am</td>
<td>&quot;Sustained Transfer of Methyl Parathion in Laundered Fabrics&quot;</td>
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<td>Joan Laughlin, Carol Bryan Easley and Roger Gold, University of Nebraska-Lincoln</td>
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<td>&quot;Modifying Wear Life of All-Cotton Fabrics: Scanning Electron Microscopy of Abrasion Mechanism in Fabrics Treated With Liquid Ammonia and Durable-Press Finish&quot;</td>
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<td>&quot;Laundry Detergency and Water Temperature As Factors In Decontamination of Denim Fabrics&quot;</td>
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<td>Carol Bryan Easley, Joan Laughlin, Roger Gold, Duane Tupy, and Kerry Schmidt, University of Nebraska-Lincoln</td>
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<td>&quot;Computer Use in Teaching Stain Removal&quot;</td>
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<td>Jo Ann S. Hilliker, University of Kentucky</td>
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B. Consumer Behavior and Marketing
Presiding: Charlene G. Callison, Western Illinois University

8:30 - 8:50 am "Apparel Fabric Preferences of Adult Texans"
Becky Saunders, Texas A & M University

8:50 - 9:10 am "Extent of Clothing Purchase Planning As A Determinant of
Women's Satisfaction With Their Purchases Of Selected
Outerwear"
Sally K. Francis and Lois E. Dicke, Miami University-Ohio

9:10 - 9:30 am "Textile Labeling: How Beneficial Is It To Selected Consumers?"
Soae L. Paek, Northern Illinois University-DeKalb

9:30 - 9:50 am "A Promotional Success Story - Designer Jeans"
Phyllis A. Ashinger, Wayne State University-Detroit, MI

9:50 - 10:20 am Beverage Break

10:20 - 11:50 am Research Reporting Session II

A. Social, Psychological, and Cultural Aspects of Dress
Presiding: Donna Sloan, Western Illinois University

10:20 - 10:50 am "Influence of Female Applicant's Mode of Dress on Interviewer's
Perception of Personal Characteristics for Middle Management
Positions"
Sandra Monk Forsythe and Mary Frances Drake, University of
Tennessee-Knoxville

10:50 - 11:10 am "Attribution: Theoretical Framework for Viewing Clothed
Appearances"
Sarah Sweat, Virginia Polytechnic Institute and Eleanor
Kelly, Louisiana State University

11:10 - 11:30 am "Comparison of Sex-typed and Androgynous Male and Female
Leaders"
Holly L. Schrank, University of Kentucky and Alan I.
Sugawara, Oregon State University

11:30 - 11:50 am "Modes of Symbolism in Nineteenth-Century Korean Silk"
Yoon-Hee Kwon, Northern Illinois University-DeKalb

B. Energy
Presiding: LaVerne B. Thomas, Texas Woman's University

10:20 - 10:50 am "An Investigation of the Use of Clothing and Perception of
Thermal Comfort in the Home Environment"
Ann Vanderpoorten, Texas A&M University

10:50 - 11:20 am "Thermal Insulative Characteristics of Textile Drapery Fabrics"
Helen H. Epps, University of Georgia and Bhuvenesh C.
Goswami, University of Tennessee-Knoxville

11:20 - 11:50 am "The Effects of Daylight on Upholstery Textile Performance"
Sara Butler and Denise Guerin, Miami University-Ohio
12:00 noon-1:30 pm Luncheon

Presiding: Imogene Ford, ACPTC-CR Secretary, University of Tennessee-Knoxville

Address: "Communicating Research: Effective Visual Reporting"
DeLoris Clouse, Visual Specialist, Agricultural Communications, University of Nebraska-Lincoln

2:00 - 5:00 pm General Session

Presiding: Marilyn DeLong, ACPTC-CR Council Member, University of Minnesota

Address: "Quality Research with Limited Funding"
Edward Lakner, Survey Research Laboratory, University of Illinois at Urbana-Champaign

Symposium: "Maximizing Quality While Learning to Live with Less: Textiles and Clothing Research Challenge"

Moderator: Joan Laughlin, University of Nebraska-Lincoln

Participants: "Getting Grants and Funding"
Kitty G. Dickerson, University of Missouri-Columbia

"How Can Textiles and Clothing Resources Cope with Limited Funding? Agriculture Experiment Station Research"
Jacquelyn Orlando DeJonge, University of Tennessee-Knoxville

"Non-Agricultural Experiment Station Research"
Betty Wass, University of Wisconsin at Madison

Panel Discussion of Issues Raised by Audience
ACPTC-CR OFFICERS AND COMMITTEE CHAIRPERSONS

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Martha Jenkins
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University of Texas-Austin

ASTM Liaison Representative
Coila Janecek
North Dakota State University

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Gloria Williams
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Martha Jenkins
Western Kentucky University
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Hospitality
Laura Dunn
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Evaluation
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North Texas State University

Research
Charlene G. Callison
Western Illinois University

Publicity
Doris Saxon
University of Missouri
at Columbia

Research Exhibit
Elizabeth McCullough
Kansas State University
CLOTHING, TEXTILES AND QUALITY OF LIFE: RATIONALE AND CONTEXT FOR PROFESSIONAL CONCERN

M. Suzanne Sontag
Michigan State University

Improvement of the quality of life of individuals and families is a goal of professionals in human ecology and home economics. Many of us here today are directly involved with departments, schools, or colleges that work toward this goal or toward similarly stated normative goals. If so, we particularly should be involved in the assessment of material well-being and its effect on overall life quality. At the Sixth Lake Placid Conference on Home Economics, Ellen H. Richards identified "...the need for adoption of such educational means as shall from the earliest years tend to knowledge of the true relations of things to the welfare of the person (1)."

It behooves us then to periodically review what is meant by improvement of the quality of life to insure that our specific teaching, research, and service programs are clearly directed toward its achievement. It is important to recognize when our activities contribute to or diminish individual and family welfare and, perhaps more important, when our activities have no impact in either direction. If the latter prevails, our efficacy is questionable and our very survival is threatened.

In the past 80 years, key documents and leaders in home economics have provided explanations for what constitutes improving life quality (2). Our first speaker will call attention to some of these interpretations. But professionals in home economics and human ecology have not been the only ones concerned with quality of life. The political and civil unrest of the 1960s convinced the Johnson administration that economic indicators were inadequate to account for and predict the social welfare of the nation's people. Since 1967 there has been a large scale, systematic, national and international effort, involving social scientists from many disciplines, to explore the meaning of the "quality of life concept" and to develop indicators and standards by which one can judge whether life quality is improving or getting worse. In this symposium we will explore the relationship between clothing and textiles and the quality of life within the context of this current major theoretical and research endeavor as well as the implications of this knowledge for research, curriculum, and extension programs.

At a seminar sponsored by the Organisation for Economic Co-operation and Development (OECD), Campbell and Strumpel proposed that:

Data on perception and evaluation of well-being ought to be analyzed in their linkage with: a) the environment, b) the person, c) his behavior, and d) other areas of subjective well-being...a thorough analysis of the impact of the environment on people's well-being is called for (3).

Clothing is a constructed environment that draws on resources from the natural environment (petroleum products, cotton, and wool fiber) for its production and maintenance. Food and fiber compete for land use and energy resources for raw materials and production.

The percentage of total consumption expenditures on clothing and textiles by families compares favorably with other important areas of indicator development of concern to sociologists, political scientists, psychologists, and environmentalists (4,5). However, in the past, clothing has been relatively ignored in the national social indicators movement. This seems to be changing with in-
creasing attention being focused by some social scientists on the tangible outputs and process benefits (intangible outputs) of household production, including the "value added" by the household in the transformation of purchased goods (6).

Expenditures on clothing and textiles help meet biophysical, psychological, social and aesthetic needs of family members. Through inputs of clothing and textile goods and services together with information about peer group, community and societal values, the family sets goals for consumption and use of clothing by its members. Families invest resources in the production of human capital. With respect to clothing this human capital investment ideally takes the form of members of society who are (1) adequately clothed for physical health and comfort, (2) clothed in a manner compatible with the norms, attitudes, and customs of society, (3) clothed in such a way as to evoke social acceptance, approval, recognition, and validation of self, (4) clothed in such a way as to promote self-esteem, self-expression, motivation, and role performance, and (5) clothed in an aesthetically pleasing fashion both to the self and to the society in which one lives (7).

Clothing is an integral part of the near environment for the individual. Several prominent persons involved in the development of quality of life indicators recognize that "the influence of factors on QOL are (sic) a rapidly decreasing function away, in space or time" from the individual's life space (8).

It is important for us then to examine the meaning of the apparel and textile environment for human resource development and self-expression and to evaluate the relationship between clothing and life quality with a view toward developing technologies and changing cultural patterns such as forecast by Bell (9) and Toffler (10). The advent of computerized buying, computerized home management, a shift of the white-collar worker from corporate headquarters to the electronic cottage, increases in off-price retailing and service occupations, changing family structures, and population migration patterns challenge us to look holistically and seriously at the structure and content of our educational and research programs. The normative character of the quality of life concept compels us to examine once again the definition of clothing adequacy, to look critically at the extent of and limits to satisfaction provided by material environments, and to the function of clothing and textiles in contributing to self-formation.

To explore these topics, we are fortunate to have with us four distinguished speakers who have been intimately involved in quality of life theory development and research. Dr. Kathryn Rettig of the University of Illinois will present a background of the theoretical development of the quality of life concept, the goals of measurement, and empirically known indicators of the quality of life.

Dr. Ann Slocum of Michigan State University will discuss how clothing functions for the individual and serves as one indicator of the quality of life. The relationship of clothing to other indicators of life quality also will be addressed.

Employing a cross-cultural perspective, Dr. Joanne Bubolz Eicher of the University of Minnesota will explore the influence of changing resources on quality of life as they affect clothing adequacy and the self.

Finally, Dr. Barbara Stowe of Michigan State University will bring us to the point of pragmatic implementation. She will critically evaluate the consequences of this theoretical and empirical knowledge base, in view of our professional mission, for program development and research in the eighties.
References:


4. According to the 1972-73 Consumer Expenditure Survey, clothing accounted for 6.8 percent of the average annual total consumption expenditures by all families during that time period (U.S. Department of Labor, 1978). This compared with 30.8 percent spent on housing, 19.3 percent on food, 8.6 percent on recreation, 6.4 percent on health care, and 1.3 percent on education. In this survey, "clothing" includes outerwear, underwear, hosiery, footwear, hats, gloves, jewelry, other accessories as well as materials, repairs, alterations, and other services including drycleaning, laundry, and gifts.


QUALITY OF LIFE: THEORY, INDICATORS AND GOALS

Kathryn D. Rettig
University of Illinois at Urbana-Champaign

Quality of life has emerged in the eighties as a preoccupation, a significant political issue, and a global problem of major concern. Increasing awareness of global shortages of food and energy resources with increasing population pressures have focused our attention on critical choices to be made that will profoundly affect the enhancement, maintenance, and distribution of individual well-being for world citizens.
Our own nation has unprecedented economic affluence and yet social discontent is pervasive. The President's Commission for a National Agenda for the Eighties called attention to the problem as reported in recent public opinion polls that 7 out of 10 Americans are dissatisfied with the direction the nation is taking, and that almost as many think the country is in "deep and serious trouble" (1). Per-capita personal income in the United States increased 40 percent between 1949 and 1965 while the proportion of Americans describing themselves as "very happy" declined 30 percent (2).

It is recognized that social progress cannot be equated with economic growth; that material well-being of individuals is no guarantee of social-psychological well-being; and that more information is needed about the social health of American society. There is a need for social and quality of life indicators that can: (1) supplement information provided by the economic indicators, (2) create a national goals accounting, (3) document historical trends, (4) guide the initiation of public policy, and (5) measure, understand, and influence individual and family well-being.

There is universal agreement that promotion of well-being is one of the most important goals of the modern state (3:279). It is also easy to agree on a national objective for improvement of quality of life. However, there is little agreement among researchers or policymakers on how quality of life should be (1) defined, (2) measured, or (3) fostered. This dilemma is not a new one. Human welfare has been a topic of recorded critical study in ethics, philosophy, theology, politics, economics, sociology, and psychology since the time of Aristotle or the beginning of the subject disciplines.

Quality of life is concerned with human betterment and refers to the good and satisfactory character of people's lives (4:8). It is a multidimensional construct that can be viewed from a variety of perspectives. The methodological and measurement challenges of life quality research have been difficult to resolve. Quality is an essence that continues to defy objective description and quantification; perceptions of life and ideals of a good or at least somewhat satisfactory life differ among cultures (4:21). Quality of life involves the totality of life fulfillment.

It is not possible to measure quality of life directly and so the investigator must examine its indicators. An indicator is an observable variable assumed to point to, or estimate, some other (usually unobservable) variable (5:65). The challenge is to find a symptom reliably related to the condition one is attempting to study. Previous research has centered around two major types of life quality indicators: (1) objective indicators, and (2) perceptual indicators of life quality. Researchers who use objective indicators require a definition of life quality consistent with the method of measurement that differs from the approach used by researchers emphasizing perceptual indicators of life quality.

One approach to measurement of life quality has been to count commodities thought to contribute to the good life. These indicators are indirect measures of individual well-being as they represent the conditions of people's lives and the environment in which they live. "Objective" indicators are not purely descriptive because they involve some kind of normative standard such as the poverty line against which they are measured (5:65). However, they do not involve the subjective evaluation of a person whose life quality is being evaluated. Hawkes (6) points out that a social indicator is value-based and describes the values that are important in the society and are identified by government research bureaus.

Objective indicators of life quality represent the average conditions or experiences of a large population such as country, region, or county that are
the typical units of analyses. Researchers using objective indicators as a primary measurement approach to life quality have typically been government statistics bureaus concerned with the welfare of large numbers of people.

Quality of life from the perspective of national welfare is a construct that has historically emphasized three aspects of public welfare: (1) economic, (2) physical/environmental, and (3) social welfare of the population, but has not emphasized psychological well-being or individual happiness. There was at one time a consensus among social indicator researchers that a difference should be maintained between welfare and happiness; that environment is one thing, and a person's feelings something else (7:22). The combination of indicators of economic, physical and social welfare are referred to as "social indicators."

Definitions of life quality for national welfare require a data base that can be objectively observed and described. This is the positivist scientific perspective that uses observable events as the mode of inquiry, views research and theory as objective and "value-neutral," and assumes that values are subjective and beyond the rational analyses (8:1). Public welfare evaluation has developed in stages beginning with our highest priority and easiest to measure—economic welfare.

Economic welfare. The Employment Act of 1946 established the Council of Economic Advisors, the Annual Economic Report of the President and the Joint Economic Committee in the Congress, which was the legal basis for compilation and use of major economic indicators (7:1-9).

Economists have historically interpreted quality in dollar terms in regard to the goods and services individuals can command with an assignment of a monetary value to free time. Current income, per-capita income, and level of living are often used as indicators of individual economic well-being while gross national product, consumer price index, and industrial growth are examples of the macro-indicators of national economic welfare (10:2).

An example of quality of life defined in the economic and individual perspective was given by Dr. Fred Singer: "Having as much money as possible left over after taking care of basic necessities, and having the necessary time and opportunities for spending it in a pleasant way. This also means having a maximum range of choices available for a way of life (7:1-26)."

The objective indicators of life quality from the macro-economic perspective assume that: (1) reduction in number of families living below the poverty level means satisfaction of individual citizens will increase and (2) a rising gross national product means increasing well-being of individuals. The development of national economic indicators was a first step in life quality measurement, but it was recognized that income did not measure physical, psychological or social well-being, and that increasing levels of economic production in a society had detrimental effects upon the quality of the natural environment that sustained human life. Concerns for the environment and its inhabitants led to the next stage of development of quality of life measurement with objective indicators, the interest in physical welfare held by environmentalists and the health professions.

Physical welfare. The physical welfare of a population depends upon the health of its people and the quality of the environment in which they live. The ecological perspective led to the development of indicators of air and water pollution that are now regularly reported in the news media. Physical welfare also can be defined in terms of public health. Indicators of our improved physical well-being can be seen in our decreasing days of sickness, increased life ex-

1 One way to summarize the usual economic concept of well-being is that utility is determined by the goods-intensity of leisure time (9).
pectancy, and improved sanitation, nutrition, and immunization (10:2). A recent international comparison study is an example of defining life quality in terms of physical welfare using objective indicators.

Scheer (11) compared quality of life in 15 countries using 1976 data compiled for other purposes, which was published in national and international yearbooks. The value of health was chosen for highest priority in defining quality of life as the "opportunity to stay alive and healthy." Twenty-five objective indicators of the "ability to stay alive and healthy" were selected to compare life quality among countries. Some of the indicators were: (1) life expectancies of men and women at birth, age 40, and age 60; (2) child mortality; (3) number of physicians per population; (4) fatal accidents at work; (5) fatal traffic accidents per population; (6) homicides per population; (7) average number of persons per room; and (8) excess consumption of calories. This study is an example of the measurement approach of counting commodities or conditions of people's lives. Several other types of indicators have been used to represent aspects of physical welfare such as housing, quality of neighborhood, clothing, and community resources.

Social welfare. Social welfare represents the sum of individual experiences and the sociological perspective on life quality measurement. The broadest conception of social welfare includes economic and physical welfare as parts of the whole. Measurement of social welfare has been a later stage of development in life quality measurement because it is more difficult methodologically. The important human qualities of love, understanding, cooperation, and participation that contribute significantly to human welfare are extremely difficult to measure since there is no neutral medium of measurement like dollars, inches, minutes, or calories.

Definitions of quality of life from the standpoint of social welfare tend to be broad in scope and identified in terms of social goals thought to constitute desired states of existence by government agencies. An example of this type of definition is:

Probably most of us could agree on the main goal area that we consider of value in determining a good quality of life. These would certainly include remaining alive and healthy, having a suitable place to live, working, enjoying leisure time, and receiving an education that prepares us to cope with life's problems (11:146).

The 1973 publication of Social Indicators defines national welfare as the status of the population in relation to the social objectives of: good health and long life, freedom from crime and fear of crime, sufficient education to take part in society and make the most of one's abilities, the opportunity to work at a job that is satisfying and rewarding, income sufficient to cover the necessities of life with opportunities for improving one's income, housing that is comfortable within a congenial environment, and time and opportunity for discretionary activities (12).

The development of such a definition of social welfare with its accompanying indicators has a long history. The pioneer of social indicators for modern times is considered to be William Ogburn, appointed in 1929 to be Director of President Hoover's Research Committee on Social Trends. The report of the committee was published in 1933 and was one of the first to stress the need for planning for the general welfare (7:1-9).

The more active and intensive pressure to develop social indicators took place in the sixties. Raymond Bauer of Harvard Business School suggested in 1962 the need for a system of social accounting such as the highly organized economic indicators.
His book in 1966 (13) focused on the need to assess where the country is in relation to its values and goals and identified a lack of true indicators of behavioral change. The Social Science Advisory Council to President Kennedy in 1962 recommended the systematic collection of basic behavioral data for the United States, which was supported also by the 1964-65 annual report of the Russell Sage Foundation announcing interest in social change and social indicators (7:1-10).

The Office of Management and Budget initiated the publication of a report to help in the understanding of social conditions and change in the United States. The report was first published in 1973 and has increased in comprehensiveness for the 1976 and 1979 publications. Family is finally included as an important social institution and there is also recognition of the growing concern for energy consumption, particularly in the area of transportation. Table 1 summarizes the indicators used for the three editions of Social Indicators that have been published prior to this date.

<table>
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<th>Table 1. Social Reporting in the United States in the Seventies</th>
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<td><strong>Social Indicators 1973</strong></td>
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<td>1. Population growth</td>
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<td>3. Income</td>
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<td>6. Health</td>
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<td><strong>Social Indicators 1976</strong></td>
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<td>1. Population and the family</td>
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<td>2. Housing and the environment</td>
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<td>3. Income and productivity</td>
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<td>5. Education and training</td>
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<td>6. Health and nutrition</td>
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<tr>
<td><strong>Social Indicators 1979</strong></td>
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<tr>
<td>1. Population growth, composition, composition, living</td>
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<td>arrangements, marital status and stability, international</td>
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<td>comparisons</td>
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<td>2. Housing inventory and facilities, trends in housing demand,</td>
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<td>public perceptions, environmental quality, international</td>
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<tr>
<td>comparisons</td>
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<tr>
<td>3. Income comparisons and adjustments, population below the</td>
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<td>poverty level, international comparisons</td>
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<td>4. Economic activity and quality, the conditions and quality,</td>
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<td>public perceptions, international comparisons</td>
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<td>5. Enrollment and attainment, adult education and training,</td>
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<td>public perceptions, international comparisons</td>
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<tr>
<td>6. Mortality, disability, other health indicators, nutrition,</td>
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<td>public perceptions, international comparisons</td>
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13
Social indicators and methodologies also are being developed outside of government, such as the work of Liu at Midwest Research Institute of Kansas City. Liu (14) used the criteria established by President Eisenhower's Commission on National Goals (1960) and developed indicators of social, economic, political, and environmental welfare to compare states. These social indicators include agricultural production, individual equality, technological development in addition to more frequently used indicators like health and economic status. A good source of information about the international efforts in the development of social indicators can be found in the journal, Social Indicators Research.

Wolfgang Zapf (15) suggested five separate functions of social indicators, all of which serve the measurement function of definition of the pace, depth, and direction of social change. These functions include: measurement, evaluation, explanation, and innovation.

1. Measurement. Social indicators provide indispensable information for social and economic planning by documenting historical trends that will assist in predicting future events. A second goal of researchers using objective indicators is to improve the measurement and to develop indicators that are reliable, sensitive, and stable.

2. Evaluation. Social indicators assist in the identification of national goals by making certain concerns more visible, help to determine priorities among goals, and measure progress toward goals.

3. Accounting. Social indicators assist in evaluating programs in specific areas on a cost-benefit basis related to what is being accomplished.

4. Explanation. Improvements in social reporting take place with accurate
information that can be communicated to a general audience.

5. Innovation. Information about the social conditions of society assist in the initiation of public policy to increase human and environmental welfare as well as individual and family well-being.

The trend in social indicators is to attempt to collect information about conditions that have not yet won policy recognition, to find indicators in areas that have not yet been studied, and to increase the amount of attention given to existing indicators of social activities (16:33).

Good social indicators validly and reliably measure social situations in relation to collective goals and indicate outputs that are relevant to welfare. It is important that the data can easily be aggregated and disaggregated for relevant groups and can be produced regularly. The challenge is to find lists of indicators that are totally inclusive and yet nonredundant while also reliably representing the conditions of interest. The challenge of validity and reliability is often overlooked. For example:

"Price of the clothes someone wears is an unreliable indicator of his/her social standing because some people show off what they cannot afford and others hide what they have. In sum, many indicators are ambiguous (5:67)."

It is possible to learn a great deal about the way people live their lives from the examination of objective indicators. However, different individuals can be satisfied or dissatisfied by the same objective conditions; and objective indicators do not provide information about why some people find their lives satisfying and some do not. It also has been found that there is little connection between the objective conditions of people's lives and how they feel.

The life quality definitions for objective indicators do not deal with how good, but with how much; not with the quality of life, but with the quantity of goods and services (13:xiii). The quantity concept of quality of life leaves out information about life quality that is critical.

Boulding points out that the quantity definitions of life quality and human betterment ignore the economic principle of marginal utility: "The more of any particular element in the universe, the less valuable is an increment of it." More is not always good and bigger is not always better:

"When a poor man gets richer, it is clearly better. When a rich man gets richer, this may easily be worse, even for him, that is, increased riches may be a burden. If you are well off, additional money may mean little and additional time a great deal more (17)."

This paradox of well-being is clearly elaborated in the work of Tibor Scitovsky (18) who also explains why discomfort must precede pleasure and that too much comfort may preclude pleasure.

Another weakness of the social indicators approach to quality of life measurement is that it is difficult to decide how the different domains of life should be weighted to show priorities of importance. This issue has been ignored by the majority of researchers using objective indicators. However, one proposal has been made recently that serves as an example of the priority ranking of social values:

1. First great pole of life--the family
2. Second great pole of life--human contacts (primary relations)
3. Third great pole of life--profession and work
4. Fourth great pole of life--ways of consumption
5. Fifth great pole of life--free time, culture, leisure
6. Attitudes toward society--political and social issues
7. Attitudes toward life after death--religion and conceptions of life (19)

One limitation of the social indicators is the absence of some of the necessities of life that are of interest to this audience. No mention is made of clothing as an indicator of quality of life despite the fact that food, clothing, and shelter have long been considered the basic human needs.

Social indicators are insufficient for inferring human or societal needs or for inferring the extent to which these needs are perceived to be fulfilled. This recognized limitation led to the next step in quality of life research, the development of perceptual indicators of life quality.

This measurement approach asks individuals directly how satisfied or happy they are with various domains of their lives. Individuals define for themselves the quality of their lives and researchers recognize the multitude of different orientations that will be present (20). "Quality is conceptualized as subjectively experienced in relation to objective conditions, on the basis of values, standards and aspirations (8:12)."

Researchers using primarily perceptual indicators are interested in the experience of life rather than the conditions of life (6:14). The individual is the unit of analysis. Individuals are asked to assess the quality of their lives in various domains, such as family life, neighborhood, and job as well as to evaluate their general sense of fulfillment, growth, or satisfaction. This is the psychological perspective, since the emphasis is on internal dynamics of individual respondents.

Definitions of life quality using perceptual indicators are also typical of the psychological perspective, since they focus on some definition of human needs and the satisfactory fulfillment of these needs. The perceptual indicators approach to life quality research has a different emphasis from the positivistic assumptions of the social indicators. There is a recognition that any study of human betterment involves critical science and normative theory. Critical science views values as capable of examination and has social change as its ultimate aim; it requires a normative and ethical stance.

Conceptualization of human needs in quality of life research is often based on Maslow's hierarchy that assumes that when people fulfill basic needs for food, clothing, and shelter, they are then motivated by the higher needs for belonging, love, self-esteem, the respect of others, and self-fulfillment. Erik Allardt (21) proposed a simplified version of this hierarchy: having, loving, and being. The need for having is satisfied through the material and impersonal resources an individual has and can master. The need for loving is concerned with love, companionship, and solidarity. The need for being denotes self-actualization.

Foa and Foa (22) classified six needs/resources that are necessary for quality of life: love, respect, services, information, goods, and money. These needs are ordered in their ability to contribute to quality of life. High levels of goods and money cannot compensate for a lack of shared love or respect from highly valued persons in terms of contributing to life satisfaction/life quality.

The conception of human needs by Foa and Foa is from a resource exchange theory perspective that considers economic and psychological resources to be interdependent and equally necessary for evaluating an individual's quality of life. When any one resource falls below the minimum level, then quality of life is impaired. Life satisfaction cannot be easily obtained with material resources since love, respect, interpersonal sharing, and companionship are the resources that can bring highest levels of satisfaction for humans. When humans attempt to substitute money and goods for love and respect, the levels of satisfaction obtained are diminished.
Foa and Foa suggest that in modern industrial societies, goods and money resources are easily obtained while it is difficult to maintain long-term meaningful relationships with valued persons; thus the satisfactions of people are diminished. Although people attempt to acquire larger amounts of goods, they are unable to substitute for the lack of love and caring relationships in their lives.

Several definitions of life quality from the psychological perspective of satisfactorily fulfilling some definition of human needs are:

1. Quality of life should be understood as an evaluation of gratification which people derive from the degree to which their material and mental needs are actually satisfied (23).

2. Quality of life is an individual's overall perceived satisfaction of his needs over a period of time (24:4).

3. Quality of life is a person's sense of well-being, satisfaction or dissatisfaction with life, or happiness or unhappiness (25).

The major goal of measurement using perceptual indicators of life quality is to understand and influence individual well-being and to study the experiences of humans in relation to the conditions of life in which they exist.

The old adage that every virtue becomes a vice if there is too much of it is true of research that considers only individuals' perceptions of their situation (satisfaction) without any description of the conditions or environment to which they are reacting. It was obvious to quality of life researchers that the use of only perceptual indicators (or only objective indicators) was inadequate in describing the elusive construct of "quality."

The early studies of human betterment using social and perceptual indicators have now given rise to an area of research with an identity of its own ("Quality of Life"). The central feature of research on quality of life is its concern with both individual evaluations of the quality of life and the objective conditions in which people live. Quality of life indicators allow one to estimate degrees of well-being--physical, biological, social, economic, psychological, and cultural. All components of quality of life pertain to the individual-environment interface. Quality of life research--

- uses both objective and perceptual indicators;
- is concerned with the interaction of the two types of indicators;
- draws data primarily from sociological surveys;
- tries to analyze life quality as an integral system of interacting variables, rather than to analyze domains of life separately;
- is conscious of the plurality and relativity of value frameworks across cultures, compared to the social indicators approach of considering the value framework as a given;
- is oriented toward past and future as well as to the present (26:226).

Solomon points out that quality of life is experienced by individuals but is closely related to quality of life of groups, communities, and nations. "The aggregation of individual life experiences resulting in a summary statement of the quality of life of a community or a nation is one of the most difficult problems of quality of life research. No less a problem is that of assessing the impact of the community upon the quality of life of the individual (26:224)." Szalai (4) indicates that it is this unique feature of interactive objectivity and subjectivity that sets quality of life apart from other concepts of human welfare and well-being.

Quality of life definition and measurement requires going beyond the definition of human needs characteristic of the psychological orientation of the perceptual indicators approach and also defining societal needs and ecosystem
needs. Carlos Mallman (27) and his associates at the Fundacion de Bariloche in Argentina spent three years in the process of "needs clarification analysis" and have developed a comprehensive analytical schematic of human needs that has been judged to be the most comprehensive, yet parsimonious statement of human needs developed at this time. This classification of human, societal, and ecosystem needs should guide future inquiries into quality of life research. Quality of life is not achievable in the long run without well-functioning social systems and ecosystems (28).

The conception of human, societal, and ecosystem needs of Mallman is the macro-perspective of life quality. Major studies in the United States with a macro-perspective have tended to give less attention to ecosystem and social needs but have included the feature of interactive objectivity and subjectivity. Andrews and Withey (29) examined several domains of life, such as family, job, neighborhood, housing, spare time, and national government, and asked respondents to evaluate these domains by value criteria, such as "freedom, fun, safety, beauty, accomplishment and acceptance." The Campbell, Converse, and Rogers study (30) was more micro in perspective as it was oriented most extensively to the examination of experiences of life. The two studies were initiated with the following assumptions:

1. People react to the world as they perceive it, not as it objectively is. Perception of objective fact is always influenced by the values, expectations, and personality traits the individual brings to the situation....

<table>
<thead>
<tr>
<th>Classification of needs according to categories</th>
<th>Personal</th>
<th>Extra-personal</th>
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<tr>
<td>Classification of satisfiers of needs according to categories of needs which satisfy them</td>
<td>Psychosomatic or Intra-human</td>
<td>Psychosocial or Inter-human</td>
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2. Sense of well-being is an individual experience. Social well-being is the sum of individual experiences.

3. Changes in well-being follow either changes in the individual's objective circumstances or in changes in the psychological perspective from which the individual perceives these circumstances.

4. Satisfaction-dissatisfaction and positive and negative effect are associated with specific domains of life as well as the level of life as a whole.

Campbell indicates that early quality of life research has provided descriptive information that was appropriate at the time, but he is hopeful that social scientists will not begin asking questions of dynamics and causality: (1) the causes of life quality and (2) the effects of life quality. It is likely that Campbell had forgotten the work of Frederic LePlay, who, in 1881, had already developed a causal interpretation of the interaction of economic and social domains of life and the resulting cyclical fluctuations in life quality over time.

Examination of the contradictory trends reflected by the objective indicators for the United States during the past decade gives one an appreciation for the complexity of life quality monitoring.

Economic welfare has increased if measured by material goods, average weekly income, or median income in constant dollars, but has decreased if measured by the consumer price index, productivity, or average monthly home mortgage payments.

Physical welfare has increased if measured by life expectancy, days of sickness, or infant mortality, but has decreased if measured by cancer death rate or cost of medical care. Quality of environment has increased if measured by weight of annual air pollutant emissions of sulfur oxides, but decreased if measured by gallons of pollutant discharges reported in waters.

Social welfare has increased if one considers median number of school years completed by all persons 25 years old and over, but has dramatically decreased if one considers total crimes per 100,000 inhabitants or the divorce rate per 1,000 population.

What are the value priorities for our nation? How do we define and monitor life quality for our population?

It is important to examine the conditions of people's lives, but also to consider individual evaluations of well-being. Americans rate their quality of life high compared to citizens of other countries. Much of the psychological evaluation results from interaction with economic welfare.

International comparisons of psychological well-being indicate that nations with the highest per-capita income invariably top every test of psychological well-being and satisfaction in major aspects of life. Studies within countries indicate that affluent people describe their lives more positively than do poor people. Lower life satisfaction was found for persons of lower socioeconomic status, urban residence, blacks, and single and divorced persons.

National studies of Gurin, Veroff, and Feld in 1957 and Bradburn in 1965 asked about happiness and have been repeated several times. The findings indicate a significant decline from 1957 to 1972 in the proportion of Americans who described their lives as very happy. How do we explain these results? Campbell suggests that goods, money, and other economic resources are becoming less important to Americans in evaluating quality of life since the relationship between income level and perceived happiness was strong in 1957 and was much weaker in 1978.

Campbell asked Americans in 1973: "What does quality of life mean to you—that is, what would you say the overall quality of your life depends upon?"
The most frequent responses were ranked from high to low: (1) economic security, (2) family life, (3) personal strengths (honesty, fortitude, and intelligence), (4) friendships, and (5) the attractiveness of physical environment. The author remarked that the majority of these factors involve values that cannot be counted in dollars.

Sontag, Bubolz and Slocum (35) reported the most important life concerns in order of importance were: (1) family life, (2) children, (3) love and affection, (4) personal health, (5) accomplishing something, and (6) financial security. Clothing ranked last of 27 items. To understand the rankings of this sample of respondents, it is important to know some of the objective conditions of their lives. These respondents were all married persons who lived together in the same household and had at least one school-age child. They had a relatively high per-capita income, which may explain the lower priority of economic security compared to the larger sample reported by Campbell.

Do we really believe clothing to be of lowest importance to respondents in evaluating quality of life? Perhaps clothing is so basic a physical need that it is not consciously identified by many people as contributing to self-esteem, belonging, or creativity needs. This brings into focus the issue of how difficult it is for individuals to tell researchers what their needs are. Some needs are either below the level of consciousness, or awareness of them is not clear at all times.

Results from several national studies consistently report that feelings about marriage and family life are of central importance in predicting satisfaction with life as a whole (10, 29, 30, 35, 36, 37, 38). The other domains consistently predicting higher perceived quality of life are: self, standard of living or family income, health, friends, and work.

Family well-being has been studied from both economic and social-psychological viewpoints. It is recognized that health of the family system is dependent upon the availability of adequate flows of both kinds of resources. The strategy of using both objective and subjective indicators has not been used in research on family well-being since it is difficult to conceive valid objective measures of quality of family life.

One of the most interesting quality of life studies with implications for family well-being was the National Survey of Children sponsored by the Foundation for Child Development. It was designed to give American children a chance to speak for themselves, to determine the effects of social changes on children, and to help guide programs and policies that affect children's lives (39). The 2,258 children in 1,148 households evaluated positively themselves, their lives, and family life. However, more than 8 out of 10 children said they worried about their families. That proportion increased to 100 percent in families where the mother described the marriage as "not too happy." Among the children living in two-parent households, nearly half indicated a wish to spend more time with their fathers and a third of those children wished their mothers would spend more time with them. Are these evaluations of children a useful indicator of family well-being?

In attempting to explain the variability in satisfaction with family life, it is not very helpful to know economic status, education, occupation, church preference, or whether the person came from a broken family. All of these objective conditions of people's lives account for a very small percentage of the variance in satisfaction with family life. Campbell suggests that the quality of marriage and family life lies in the characteristics of the individual and of the person he or she marries and that some people are better prospects for a successful marriage than others because they possess personal qualities that make it possible for them to live amiably with another person in an
intimate relationship (10:93). (This is the theoretical perspective of personality characteristics as inherent traits, which contrasts with the theoretical viewpoint of human behavior as situation specific with personality elicited in response to the particular environment that stimulates a unique response.)

How can we define quality of life on a personal and family level? What is family well-being? How can we assist individuals to develop the human resource attributes that facilitate meaningful interpersonal relationships? Will resource scarcity actually contribute positively to higher quality of family life? How can quality of family life be more effectively monitored for purposes of public policy initiation and funding of needed social programs?

On a more macro-level of our own country, we need to ask many of the same questions. How can quality of life be defined, measured, and fostered in a country with such a diverse population and plurality of value frameworks? How can we simultaneously foster quality of life and quality of our ecosystem? What rights do we have as a nation with 6 percent of the world's population to consume 30 percent of the global supply of fossil fuel (40) or import 91 percent of our aluminum and throw out one million tons annually, worth over $400 million to industry?

As we consider human, social, and ecosystem needs, what decision rules should be used to allocate scarce global resources such as stored solar energy? There are several decision rules for distributive justice. The United States would not like oil and natural gas to be allocated to countries using equality or ownership decision rules. We use the rule of justified self-interest or the rule of need to rationalize that maintaining our quality of life is more important than improving the quality of life of small and poor nations and is worth the tremendous resource costs we extract from our earth spaceship. We have an energy-intensive lifestyle and consider comfort and convenience to be high value priorities for quality of life. What implications do these values have in the future as we struggle to make the critical choices that will affect the enhancement, maintenance, and distribution of individual well-being for world citizens?

References:


Ann C. Slocum  
Michigan State University

In the next few minutes, I will address two questions. First, is clothing an indicator of life quality?

Your first reaction may be "Isn't the answer self evident?" After all, we, as clothing and textiles professionals, provide information about fibers and fabrics, teach clothing selection and help provide new fashions. We research fabric flammability, the relationship of clothing to self-image, and myriad other topics with the intent of helping persons improve their lives.

From a public policy standpoint, government efforts to support the development of standard clothing budgets supports a belief that clothing is a basic need.

Then why conduct studies of clothing and quality of life? Although our motive may be to help individuals, everyone may not see our efforts as positive. For example, frequent fashion changes may create wants that can't be filled;
teaching people how to create illusions with clothing may focus attention on the idea of "figure problems." Clothing beyond minimum essentials may not be that important to everyone. In the business of day-to-day living, concerns about health or getting a job done may take priority over the importance of clothing.

My own interest in studying clothing as an aspect of life quality has been to gain a more complete picture of how clothing fits into other aspects of life and to gain insight into the subtleties of how and why it satisfies. I also wanted to evaluate the need to call to the attention of social indicators researchers that clothing is a component worthy of inclusion in quality of life studies.

Having justified the question "Is clothing an indicator of life quality?", let us briefly examine the answer provided by empirical research. Very few quality of life studies have included clothing as a component (1, 2, 3). My report will focus on theoretical approaches, measurement and findings from a series of studies conducted at Michigan State. For our purposes..."quality of life consists of degree of fulfillment or satisfaction of basic physical, biological, psychological, economic, and social needs" (4:107). The overall theoretical framework has been a human ecological one (Figure 1). The model conceptualizes three basic components, the human environed unit (individuals/families or other groups), the environment (natural, human behavioral, and human constructed) and interactions between and within these two. The environments, while conceptually distinct are interrelated and may be thought of as being embedded within each other (5), (Figure 2).

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Figure 1: The Human Ecosystem
This model encouraged a holistic approach to the study of clothing by focusing attention on a number of components from the near environment that are possible indicators of quality of life.

Phase One: Older, Rural Sample. In the first phase of the project, 65 long-time residents of Michigan's upper peninsula were interviewed (4). Respondents were from farms and small towns. The median age of the sample was 61 and over half had incomes under $8,000 in 1975. Just under one-fourth had children under age 20 living at home; 12 percent lived alone. The importance of 21 life concerns was assessed on a 5-point scale (Figure 3). Respondents were asked to place the concerns on one of five steps on a ladder; the top step represented things of very high importance, and the bottom step, things of no importance.

Satisfaction with the same concerns was similarly assessed on a seven-step scale (Figure 4). It was theorized that the importance placed upon and the degree of satisfaction with life concerns would influence perceptions of quality of life. For example, satisfaction with a highly valued life concern may lead to life satisfaction while dissatisfaction with a component that is not highly valued may not greatly influence quality of life. At the beginning and near the end of the interview, individuals rated how they felt about their lives as a whole on a 7-point scale. The arithmetic mean of the two rankings was used as the measure of perceived overall quality of life (POQL) (4:110-112).
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<tr>
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<th>LIFE CONCERNS</th>
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<tr>
<td>5</td>
<td><strong>very high importance</strong></td>
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<td>4</td>
<td>(pretty) high importance</td>
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<td>3</td>
<td>some importance</td>
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<td>2</td>
<td>little importance</td>
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<td>1</td>
<td>no importance at all</td>
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A  Safety
B  Condition of the natural environment
C  Accomplishing something
D  Work - either a job or work at home
E  Your own health and physical condition
F  Fun and enjoyment
G  Religion
H  Clothing
I  The place you live - house or apartment
J  Financial security
K  Beauty and attractiveness of your world
L  Family life
M  Sleep
N  Food
O  Having an interesting day-to-day life
P  Independence (freedom)
Q  The things you do and the times you have with your friends
R  The way you spend your spare time -- your non-working activities
S  What our National Government is doing
T  Developing yourself and broadening your life
U  Car or other transportation

Figure 3: SALI Scale

Note: The importance scale was based on the Self Anchoring Striving Scale developed by Hadley Cantril, 1965.
Note: The seven-point delighted to terrible scale, developed by Andrews and Withey of the University of Michigan Institute for Social Research (1976), was adapted to a ladder format. Items used in the scales were selected from 123 items used by Andrews and Withey.

Of the 21 items, clothing received the lowest mean importance score (2.8) while family life and health had the highest mean scores (4.8 and 4.7 respectively). But the mean for satisfaction with clothing was moderately high (5.3) and ranked thirteenth. Satisfaction with clothing was positively and significantly correlated with Perceived Overall Quality of Life (POQL) ($r = .27$, $p = .05$). Clothing satisfaction entered in a stepwise multiple regression analysis but did not account for a large share of the variance in POQL. Satisfaction with accomplishing something, family life, work, and financial security together accounted for 53 percent of the variance in POQL, while clothing and six other variables together accounted for an additional five percent of the total variance.

In a related study, Butler conducted in-depth interviews with six of the highest and seven of the lowest scorers on overall quality of life. She examined four near environments: clothing, family, shelter, and community. An analysis of wardrobe inventories showed that both groups owned clothing similar in source, number, and age. Both groups rated clothing of "some" importance, although it ranked last of 21 concerns, but the low POQL group was also somewhat less satisfied with their clothing. Thus differences between the high POQL and
low POQL group occurred in perceptions of satisfaction with clothing rather than in perceptions of importance or in differences in their wardrobes (6:160-166). This trend held true for the other environments. It was not objective measures and perceptions of importance, but perceptions of satisfaction that appeared to make a difference (6:198-206).

Given the nature of the sample, older persons living on limited incomes in a rural setting where everyone knows each other, and with enough clothing for physical protection, it probably is not surprising that clothing was low in importance and not highly predictive of quality of life. There is of course the possibility that the importance ratings were influenced by what respondents thought should be ranked high or low.

Second Phase: Younger, Urban Sample. In the next phase of the project, a younger, more urban sample was sought. In order to meet the diverse needs of the research team, the sample was drawn from three census tract frames in a Michigan county that is part of a Standard Metropolitan Statistical Area. The frames represented areas that were relatively rural, suburban, and urban, the latter containing a concentration of minority residents. Respondents were 237 wife/husband pairs who had at least one school-age child living at home, and lived in census tracts that met an a priori income criterion. Data were obtained through separate self-administered questionnaires between November 1977 and March 1978. Trained interviewers explained the study, determined the eligibility of the household and distributed and collected the questionnaires.

As a whole respondents were middle age ($x_w = 37.5$ and $x_H = 40.2$ years), upper middle income (mode = $20,000 - $29,999), and rather well educated (1/2 of the men and 1/3 of the women had some college education). Men held a variety of occupations with an almost equal and relatively large proportion employed as professional/technical workers, managers/administrators and craftsmen. Forty percent of the women were employed outside the home with the largest proportion in professional/technical and clerical roles. Both blacks (18%) and whites (81%) were represented.

Sontag analyzed responses from 116 wife/husband pairs that made up the suburban sample. Her aim was to clarify the relative importance of clothing among the other domains and value criteria, as a determinant of perceived life quality.

A domains by criteria matrix model, developed and tested by Andrews and Withey, was used to assess overall evaluations of life quality. The model employs quality of life indicators at three levels of specificity. At the most general or global level is the question, "How do you feel about your life as a whole?" At the second level of generality are evaluations of life concerns or "aspects of life about which people have feelings." Two categories of life concerns are domains and criteria. Domains of life are "places, things, activities, people and roles" and criteria are ways of judging what the domains of life afford, such as values, standards, aspirations, goals. The most specific level involves a person's evaluation of a specific domain with respect to a specific criterion. Affective evaluations of life concerns at three levels of specificity were assessed on a seven-point Delighted-Terrible scale (Figure 5).²

1 All census tracts that had a 1970 median income of $12,000 were included. In one area the income criterion had to be lowered to ensure enough participants.

2 Andrews and Withey conducted extensive research on validity and reliability of scales used in quality of life studies, including the D-T scale. They also tested the matrix model using the six domains and eight criteria included in this study.
I FEEL:

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<td>Unhappy Terrible</td>
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<td>satisfied equally satisfied and dissatisfied</td>
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Figure 5: Seven-Point Delighted-Terrible Scale

The matrix suggests that general evaluations of domains and criteria are some function or combination of the specific evaluations in the respective rows and columns (Figure 6). For example, how a person evaluates his/her house/apartment may be a result of how well it meets several relevant criteria such as beauty and attractiveness and fun. Similarly, columnwise combinations can be made for the criteria. How a person feels about a particular value, goal, or standard depends upon its fulfillment in various domains. Feelings about domains or value criteria are determinants of one's perceived quality of life.

As shown in Figure 7, the seven domains in Sontag's study were: housing, clothing, job, family life, neighborhood, spare time activities, and national government. The eight criteria were: independence and freedom, fun, accomplishing something, standard of living, beauty and attractiveness, freedom from bother and annoyance, safety, and acceptance and inclusion by others.

Results were somewhat surprising. A much stronger correlation existed for men's affective evaluations of clothing with POQL than women's ($r = .45$ and .25 respectively). This means that for women, only six percent of the variance in POQL was accounted for by clothing, but for men, clothing accounted for 20 percent of the variance. Controlling for the demographic variables of age, total family income, education, family size and, in the case of men, occupational prestige, did not substantially change the relationship between clothing and POQL.

Full and reduced models of multiple regression (8) were used to obtain evidence as to whether clothing should be included as a quality of life indicator. First the six domains were regressed against POQL. The clothing domain was then added to the analysis to determine if it significantly increased the explanation of POQL. For women, the increase in the adjusted $R^2$ with the addition of the clothing domain was not significant. For men, however, it was. Clothing was one of four statistically significant predictors of POQL. Of the seven domains investigated, family life was the best indicator of life satisfaction, followed by job, clothing, and housing. In other words, if one knows how men feel in general about their family life, job, clothing and housing, one can predict with reasonable accuracy how they feel about life in general. For women in the study, satisfaction with family life was the best predictor of life satisfaction. Next in magnitude, but only approaching statistical significance, was affective evaluations of clothing.
CRITERIA

Figure 6: Andrews' and Withey's Two-Dimensional Conceptual Model with Examples of Possible Domains and Criteria and with Evaluations of Well-Being at Three Levels of Specificity

Domains
"Places, things, activities, people and roles"
(Andrews and Withey, 1976, p. 11)

Criteria
"Values, standards, aspirations, goals, and--in general--ways of judging what the domains of life afford"
(Andrews and Withey, 1976, p. 12)

Seven Domains Used in Sontag Study
1. Housing
2. Clothing
3. Job
4. Family Life
5. Neighborhood
6. Spare-Time Activities
7. National Government

Eight Criteria Used in Sontag Study
1. Standard of Living
2. Fun
3. Independence or Freedom
4. Beauty and Attractiveness
5. Freedom from Bother and Annoyance
6. Safety
7. Accomplishing Something
8. Acceptance and Inclusion by Others
Allred (9) combined responses from three subsamples that together constituted a total sample of 234 wife/husband pairs. Approximately one-half of the couples were the same individuals included in Sontag’s study. Following Kennedy, Northcott and Kinsel (10) a selection of variables thought to represent four types of predictors, objective, subjective, experiential, and demographic, were used to predict feelings about clothing (Figure 8). The variables used were not those in the matrix previously discussed. Two domains known to be important to quality of life, feelings about self and family life, were controlled for in examining the relationship of clothing to quality of life.

![Diagram](image-url)

**Figure 8: Model for Relationship of Three Levels of Quality of Life Factors**

Correlations between affective evaluation of clothing and perceived overall quality of life were statistically significant for both men and women. However, when partial correlation was used to control the effects of affective evaluation of self, the correlation coefficient for affective evaluation of clothing and perceived overall quality of life dropped from .41 to .14 for women and from .35 to .25 for men. This indicates that a large portion of the relationship between affective evaluation of clothing and perceived overall quality of life was related to affective evaluation of self. This is especially true for women. While the effect was not as dramatic for men, the r was reduced, indicating some shared variance.

Our first analyses anticipated a direct relationship between feelings about clothing and perceptions of life quality for people in general. This relationship was very weak in the older rural sample and true only for the men in the suburban subsample. There was some indication that clothing was linked indirectly to quality of life through feelings about self. It was concluded that there was moderate support for including feelings about clothing as an indicator of perceived life quality. Our next wave of analyses concentrated on the relationship between clothing and other life indicators, and in some cases on more narrowly defined groups (Figure 9).
The second question I want to address is, "What are the relationships and ambiguities between clothing and other indicators?" I've chosen five life concerns for brief consideration: the self, job, accomplishing something, being creative and expressive, and standard of living.

The Self. A number of studies in the clothing psychology literature have documented connections between clothing and the self (11, 12, 13, 14).

A portion of Sontag's study examines the relationship between self, feelings about clothing, and quality of life. A Proximity of Clothing to Self Scale was constructed to represent the psychological closeness of clothing to the self. Based on essay responses to the question, "What are some of the most important reasons why you feel as you do about your clothing?," individuals were assigned one of three on-scale scores or an off-scale designation (15:137-144). She
found that the high scorers, those women and men who verbally acknowledged the importance of clothing for expressing and influencing their self-concept, self-worth, and self-esteem had higher mean scores of POQL\(^3\) and had more positive feelings of self-accomplishment than those who did not acknowledge this relationship (Figure 10). For both men and women who had high scores on the PCS scale, the correlation between evaluations of clothing and self were much higher than for the low scorers (women, \(r = .71\) and \(.25\); men, \(r = .44\) and \(.26\)). This was especially true for women.\(^4\) The high scorers also viewed clothing as more important (15:269-273).

**Figure 10**

**COMPAred to low scorers, those high on the proximity of clothing to self scale had:**

- Higher Average POQL Scores
- Higher Feelings of Self Accomplishments
- Higher Correlation between POQL and Clothing
- Higher Ratings of Clothing Importance

**OTHER DIFFERENCES:**

**Women**
- Lower average scores on eight clothing by criterion evaluations

**Men**
- Higher average evaluations of clothing by eight criterion
- More positive feelings about clothing
- Incomes above median family income ($25-29,000)
- Higher median educational level
- Higher occupational prestige

In another phase of the analysis, nonmetric multi-dimensional scaling used together with hierarchical clustering solutions as a validating technique, was used to analyze the perceptual structure of life concerns for the four groups, high and low scoring men and high and low scoring women. The technique provides a picture of how people organize and relate life concerns in their minds.

**Self and Being Creative and Expressive.** For high scoring men and women, those who verbalized a relationship between clothing and the self, feelings about creative and expressive are more closely linked to clothing and to the self than is true for low scorers. For these people clothing may be a means of self-expression. This is probably related to the fact that the high scoring men had higher occupational prestige scores, higher educational levels, higher median educational level, and higher occupational prestige.

\(^3\) The differences were statistically significant for women.

\(^4\) This is consistent with Allred's finding that affective evaluation of self accounted for 24% of the variability in women's affective evaluation of clothing but for only 10% in men's feelings about clothing.
and incomes above the median family income for the sample.

Job/Level of Living. For men with low scores on the Proximity of Clothing to Self Scale, job and clothing are closely related in their perceptual structure of life concerns. The clustering of clothing with job is consistent with the fact that feelings about their job and accomplishing something were significant predictors of quality of life for men as a group. Although not statistically significant, accomplishing something was also the best predictor of men's feelings about clothing. These individuals may value clothing more as an object to be used instrumentally to facilitate the performance of occupational roles.

Low scoring men and women also perceived a stronger relationship between clothing and housing than did high scoring men and women.

For women who were low on the PCS scale there was a stronger association between clothing and standard of living than for any other group. This finding suggests that for the low-scoring groups clothing may be important because of the association it has with level of living or material well-being. Unlike economic well-being that is based on income or expenditures, Ferguson, Horwood, and Beauvais (17) conceive material well-being to be based directly on two correlated dimensions, level of ownership and level of economizing behavior.

Wearing old clothing because replacements were not affordable and purchasing second-hand clothing were two aspects of economizing behavior. Several findings from Allred's study seem consistent with this definition of material well-being. She found that percentage of clothing acquired new (as opposed to used) and clothing expenditures were significantly correlated with feelings about clothing for men and women and with POQL for men. Agreement with statements about the importance of owning a lot of clothing, fashion being too expensive, and buying clothing at sale prices were also significantly and negatively related to feelings about clothing for women.

Is clothing an indicator of quality of life? Yes, but the way in which clothing contributes to life quality differs for different people. For some individuals, clothing is seen as closely linked to the self, as a means of self-expression, and as an aspect of quality of life. For others, clothing is thought of in a more utilitarian way and contributions to quality of life are indirect through feelings about the job and standard of living.

Further analyses need to clarify the ambiguities between clothing and other known predictors of POQL, such as the value criteria fun, accomplishing something, and independence and freedom. To do this, we need methodological studies that provide in-depth information about the meaning value criteria have for individuals. We need also to test additional criteria to increase our explanation of feelings about clothing and other life domains. For example, the relationship of fashion to POQL is unknown. Conceptually we need to clarify

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This was also true for all men as a group.

6. Feelings about job was not used in the prediction of life as a whole for women because of the small proportion who were employed for pay.

7. While the term standard of living was used in data collection with respondents answering, "How do you feel about your standard of living--the things you have--like housing, car, furniture, recreation, and the like?", the construct could more appropriately be labeled level of living.

8. Lowe and Dunsing (1981) found that satisfaction with material well-being was the most important variable in satisfaction with clothing (16).

9. While the correlations were statistically significant, the percentage of variance accounted for was low.
the constructs of clothing adequacy, clothing deprivation, and material well-being. Finally, analyses of data from groups stratified on two or more relevant dimensions, for example proximity of clothing to self and material well-being are needed to give a clearer picture of the contribution of clothing to quality of life for different types of people.

(The research reported in this paper was funded by the Michigan State University Agricultural Experiment Station under project number 3151, "Families in Evolving Rural Communities" and 1249, "Clothing Use and Quality of Life in Rural and Urban Communities," and by a grant from the University of Minnesota.)

References:

INFLUENCE OF CHANGING RESOURCES ON CLOTHING, TEXTILES AND THE QUALITY OF LIFE: DRESSING FOR REALITY, FUN AND FANTASY*

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University of Minnesota, Twin Cities

My purpose is to provide a cross-cultural dimension related to changing resources affecting textiles and clothing and quality of life. I will compare Kalabari data from the Rivers State of Nigeria, where I am currently doing fieldwork, with American examples. Ultimately I will draw from these examples and discuss presenting the self by dressing for reality, fun, and fantasy.

Suzanne Sontag outlined four questions for my consideration as follows:
1. Which resources (both national and individual) are changing and how are they changing?
2. How may these changing resources affect our attainment of life quality?
3. How may these changing resources affect definition and measurement of clothing adequacy, future production and consumption of clothing and textiles, communication of information, and decision making?
4. What issues do the above raise for the enhancement of the quality of life?

Before developing my ideas, I must point out that I prefer to use the word "dress" rather than "clothing" because dress includes more than merely covering the body with apparel. Dress includes coiffure, cosmetics, jewelry, and accessories carried by and for the individual. These artifacts are equally as significant as apparel in presentation of the self. Indeed, in cultures where covering the body is minimally important and decorating with adornment and cosmetics is maximally important, artifacts become more significant than apparel.

Finally, I would like to emphasize that I believe the presentation of the self is important in every culture and the way the self is dressed, as Gregory Stone has so aptly pointed out, becomes important in the way the self is addressed (1).

Now let me relate the variables of dress, the self, changing resources, and the quality of life. Quality of life is related to the resource base of the world. As the world's resources become more scarce and new ones are developed, Americans as well as other people in the world, will have to reassess the use of resources (2).

Resources to provide adequate food and shelter are usually highlighted as the critical problems of everyday life. We can assume that resources to provide adequate dress also will be a problem.

In the picture of changing resources, dress is only one aspect of the total environment or ecosystem in which we live. Resources in the environment relate to each other; thus changes in one or more resources in the environment bring about changes in other resources. Ultimately these changes relate to family budgets and expenditures. For example, clothing and energy cost can easily be seen as related budget items in cold temperatures. Unless income rises proportionately when expenses for energy costs increase, some other expenses must decrease. In contrast, where heating a shelter is not necessary, as in the tropics, expenditure for artifacts of dress is related to other environmental factors. Such is the case of the Kalabari people and their dress.

For comparative purposes, I want to present some Kalabari data. I will begin by presenting a brief visual depiction and description of the Kalabari environment so that the Kalabari ecosystem of which dress is an aspect can be understood.

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The Kalabari people live in the delta of the Niger River, in the Rivers State of Nigeria. As river people, their traditional life has centered on the river, fishing, and an aquatic life. The capital of the Rivers State is Port Harcourt, a bustling city now focused on the oil industry. Many Kalabari (along with people of other ethnic groups) reside there to earn a livelihood from government jobs as civil servants or politicians; as professionals in medicine, law and education; as service workers or tradesmen; or as common laborers. Attention always focuses on the home villages, however. Those who reside in Port Harcourt during the work week, travel weekends to the nearby Kalabari towns of Buguma, Abonnema, Bakana, and Tombia, which they identify as "home." Buguma and Abonnema are river towns reachable only by motor boat or launch from Port Harcourt—an hour or two away.

The Kalabari people are cloth and dress conscious. Dressing the body and presenting oneself appropriately for time and place have a high priority in Kalabari life. Cloth itself is prized and used extensively in ceremonies, such as fattening, marriages, funerals, and Owu masquerades. Some special madras and gingham cloths with cut designs are associated with particular family names and are correctly worn only by family members on specified occasions; on other occasions, the cloths can be worn by anyone (3). The "strong rooms" of each Kalabari compound are primarily filled with family "cloth boxes"—suitcases and boxes that contain the textile heirlooms of the family.

An etiquette and aesthetic of dress for age and sex exist in all cultures. My slide examples show both age and sex differences, first for Kalabari males and then for females.

The slides also show a relationship of dress to other aspects of the ecosystem or environment. The strategic location of Kalabari culture in a major trading route by sea exposed the Kalabari to cloth of other cultures. The warm climate provides reasons for "comfortable" dress but the overlay of custom and propriety decreases comfort as a sole criterion in selecting dress. Aesthetics of Kalabari dress encourage men to be "dashing" and "sporty" and women to be "cool" and "subtle."

Now let us tie these Kalabari examples back to our theme of changing resources and the quality of life by expanding on the point presented in the introduction, that dress provides one critical dimension in our lives in presentation of the self. Dress is our most intimate environment, always with us. Dress is significant in development of the self, in identity, in self-image, and self-respect. I believe this is a cross-culturally valid assumption and the Kalabari data provide comparative data to reinforce the assumption.

Quality of life appears related, at least in part, to material possessions around the world. We in textiles and clothing are particularly interested in artifacts of dress as related to quality of life. Rettig has described and analyzed the objective and perceptual indicators of life quality and Slocum has focused on the relationship of clothing to this life quality. I am presenting comparative data in analyzing possible impacts of changing resources on dress and quality of life.

In Kalabari culture, the artifacts of dress as material possessions are important. Furthermore the etiquette and aesthetics of dress are significant in everyday Kalabari life. Other material possessions such as houses and cars are important to those who attain wealth. But even individuals who live in meager housing and do not have automobiles participate in the etiquette and aesthetics of dress because presenting the self appropriately in Kalabari life is a valued activity. The immediate and constant environment of each individual is his or her dress. As in Kalabari culture today, future American emphasis on this immediate environment may become more important than the indi-
vidually owned household or transportation environments.

Throughout their history the Kalabari have had changing resources. One locally woven raffia cloth called okuru was widely used by women years ago for many allied aquatic and ceremonial purposes. As imported cloth became available and was incorporated into daily wardrobes, okuru almost disappeared. Some of these imported cloths were so prized, that upon an individual's death, the cloth became an heirloom that was stored away as a family treasure to be worn only on appropriate special occasions. Today most textiles available to the Kalabari are imported: either handwoven elsewhere in West Africa or commercially produced in England and India. The trade relationships of the Kalabari and economic interdependence as illustrated by their textiles and dress have implications for Americans.

The interdependence of nations indicates that we, as Americans, will undoubtedly have to reassess our expectations in regard to material possessions as our world's resource base changes. As Americans reassess expectations in regard to material possessions, alternatives arise: we may get along with fewer possessions than in the past, or we may de-emphasize some possessions and emphasize others, or we may increase emphasis on quality of certain items and decrease emphasis on quantity. The consequences of America's interdependence with the world oil situation can be seen in increased transportation costs, reduced car size, and increased home and industrial heating costs. American patterns of dressing have been affected as illustrated in fashion--more common use of sweaters, the layered look, wearing jackets over dresses for women, the accepted use of long underwear under clothing in winter climates for daytime use as well as for out-of-doors sports events. These examples illustrate changing uses of apparel but not necessarily reduced consumption of apparel. However, smaller and more flexible wardrobes or more "durable" clothing items may come next. Or--we may emphasize a different aspect of presenting the self. For example, the increased use of cosmetics or more attention to dressing the hair and the physical care of the body could assume more prominence in fashion.

Currently we see the recycling of apparel from the past, which is being purchased especially by the young. In Minneapolis, stores called "Ragstock," "Elite Repeat" and "The Pink Closet" are particularly popular. As our resources change, or as family incomes do not stretch far enough to buy totally new wardrobes, the concept of recycling may expand to more facets of our population. The phenomenon of garage and yard sales also points to an acceptance of recycling, especially in children's clothes, maternity clothes, and some sportswear. Until recent changes in U.S. tax laws, well-paid executives were able to take tax breaks for clothing rented for businesswear. Now, a number of multinational businesses sell suits at less than market value to their managers so that they may be well dressed without a major financial drain when representing the company.

Changing resources in Kalabari life influenced their dress. Similarly we see changes in our resources influencing our dress, and we can project that as resources continue to change, patterns of dress will change. Therefore let us consider how changing resources might affect clothing adequacy.

If we accept as a given that the presentation of the self is important in every culture, we focus on dress and adornment artifacts in this presentation of self. As resources change in our own culture, we may have to re-evaluate our concept of what is adequate dress. The concept of adequacy is elusive, devising a measurement of adequacy is a challenge. Measuring the adequacy of food and shelter seems to be easier than measuring the adequacy of dress. Food and shelter ostensibly relate to physical health. The adequacy of food can be measured by investigating malnutrition, starvation, and death.
The adequacy of shelter can be measured by investigating poor sanitation, room density, and consequent illness and death. The adequacy of clothing appears difficult to measure. Both flammability and thermal sufficiency of fabrics do have measures, but I am unaware of an overall measure for adequate dress. I believe that "adequate dress" is an elusive concept to measure because the relationship of the self to dress involves subjective aspects. For example, welfare budgets have had problems defining adequate clothing. Are two changes of clothes for a child--"one to wear and one to wash"--adequate when the rest of his or her school chums have several changes in a wardrobe? For example, in the late '50s one high school girl in a midwestern town was known by her friends to have 30 cashmere sweaters and matching skirts. In August 1981, one teenage girl in a midwestern city justified to her friends the purchase of 10 new pairs of pants (including designer jeans, corduroys, etc.) by claiming, "It's only enough changes for two weeks of school." For a teenager without access to such resources, is a change of "one to wear and one to wash" adequate?

Adequacy apparently has a psychological or perceived as well as "real" or objective dimension, for adequacy in dressing the self relates ultimately to not only the objective inventory of artifacts presented, but also to the self-image, self-concept, and self-respect of that individual. Thus, self-image, self-concept, and self-respect become closely tied to the perception of an individual's life quality and not necessarily to one objective indicator, such as cost. Whenever clothing for social welfare purposes has been analyzed as adequate or not adequate, the judgment has usually been an economic or thermal judgment based on an objective assessment of dollars spent or of quantity.

My Kalabari slides nicely illustrate another concept of adequacy. In the paired examples of male dress, the shirts and wrappers looked identical to our eyes. To the Kalabari men in the photographs they were not, for one man of the four wore an ordinary white shirt and not a proper Kalabari shirt. Similarly American teenagers perceive "real" differences between designer jeans and nondesigner jeans as one example. Such comparative data summarize the multiple meaning of adequacy in dress.

As resources change, perhaps measurement of quality of life in relation to dress (including adequacy) should focus on the concept of the self. Perceptual indicators of wardrobe adequacy need investigation; variables of quality and quantity, newness or heritage, etiquette and aesthetics, and the details of dress may emerge as significant.

Dressing the self results in communicating information about oneself to others. Information about one's identity is conveyed, for example, by a policeman's uniform, a priest's robe, a show girl's costume, a business woman's suit. We, as observers and analysts of dress and adornment know that dimensions other than economic ones exist in relation to dress. Social-psychological as well as the aesthetic variables are also important. As Rettig summarized, both objective and perceptual indicators must be used in defining and measuring the quality of life. The future production and consumption of the artifacts of dress may change as we reassess the self and presenting the self in relationship to the concept of adequacy.

I would like to argue that dress may emerge as even more important in our future assessment of quality of life than in the past as resources change.

I have stated that the self is presented in every culture. Important to this presentation is the dress of the individual because dress is a communication device. The self is presented effectively in a culture when, in Stone's terms, "program" and "review" coincide (4). "Program" refers largely to the artifacts of dress presented by the self. When the self is not presented
effectively by these artifacts, the self is challenged. As an extension of Stone's theory of appearance and the self, I propose there are three conscious parts of the self that relate to dress. I will call these the public self, the intimate self, and the secret self. Dressing for reality, fun, and fantasy are related to these three selves. The public self is by and large rooted in reality. This is the age, sex, and occupational self universally presented by dress. In American culture today, this public self is being besieged with books explaining how to dress successfully. A plethora of titles exist--most of which are by now familiar to you. The authors of these books understand at a practical level, the importance of artifacts for the self in the occupational world of western society. In addition, most of our colleagues' research in textiles and clothing has stressed aspects of the public self.

In addition to the public self, I propose that there are two other selves. One I will call the "intimate self." This self is the one presented in dress and demeanor to "significant others"--close friends and relatives--one's "intimates." Dressing this self can sometimes result in dressing for "fun" and relaxation--the dress of the boudoir, the garden, around the house, barbecues, picnics, parties, casual sports activities (5).

The third self I will call the "secret self." This self may or may not be shared with any other person. I conjecture that the secret self can engage in fantasy dress (6). Sometimes fantasy dress is sexual, such as seductive lingerie for women or tight undergarments or trousers for men. Sometimes fantasy dress may consist of bold colors worn in private, which individuals would not wear in public, or it may be that wonderful garment that hangs alone unworn in the closet. Sometimes fantasy dress may be the dress of a carnival, Mardi Gras, or Halloween masquerader who presents the secret self anonymously in a public situation. I think we know very little about the secret self and fantasy dress. I believe the secret self and fantasy dress are rich areas for research and heretofore largely overlooked. It is perfectly possible, for example, that significant distinctions exist between men and women in regard to the secret self and fantasy dress. In America, at least, we may allow women the freedom to act out their fantasies and purchase dress for the secret self. I have discussed this briefly with several men who say they have fantasies about a secret physical self quite different than their actual physical self and the disparity is so great they cannot dress this secret self (7).

I leave these ideas for you to contemplate, and will conclude by comparing my Kalabari data with our familiar American examples. Dress is our most immediate environment, whether we are American or Kalabari. Dress aids in the presentation of the self because the artifacts of dress enable us to provide relevant information to others that they can assess. As resources change and other aspects of our environment become more expensive, such as housing and transportation we may curtail their expenditures and emphasize dressing the self. This could result in the self and its dress becoming more important in our quality of life. The three selves and their dress can be an aspect of quality of life. In the Kalabari examples, we see people who admit to being interested in dress, who acknowledge the aesthetics and etiquette of dress. My research with them is incomplete in regard to the three selves I propose--my knowledge is greatest of the public self in Kalabari life just as it is in American life. From their example, however, we can project that manipulating the artifacts of the immediate environment--our dress--we may be affecting our perceived quality of life, even in a world where some resources are dwindling and becoming more meager.

*Acknowledgement is made to the Graduate School of the University of
Minnesota and to the Agricultural Experiment Station for research funds supporting the preparation of this manuscript. In addition, I wish to thank Otto Charles Thieme for his critical reading and comments.

References:


5. For some, such intimate dress becomes public when a sports activity is no longer engaged in for fun alone but becomes a profession or daily occupation.

6. Ibid. pp. 236-241. Stone did conjecture about "fantastic socialization" but confined most of this discussion to fantasy in childhood.

7. Stone discussed males being disadvantaged in "anticipatory socialization" in childhood. Perhaps they are disadvantaged as adults in regard to fantasy dress.

CONSEQUENCES OF PROGRAM DEVELOPMENT IN THE '80s

Barbara S. Stowe
Michigan State University

The papers that you have just heard are indicative of the diversity of approaches to the study of textiles and clothing and of the increasing sophistication of research in the field. It is my earnest hope that the quality of research and the body of knowledge can continue to grow, but it may not without our careful attention and planning. As a profession we have taken as our major responsibility the definition of the field of textiles and clothing, the body of knowledge that constitutes that field, and the dissemination of it. We have made progress in all three endeavors. A second responsibility is to convince decision makers in the university, legislature, and private sector of the value of the study of textiles and clothing sufficient to gain support of it as part of the curriculum. We have given far more attention to the first responsibility. In a time of severe economic constraints, lack of vigorous and sustained pursuit of the second responsibility is more apparent.

There is probably no faculty member here whose department has not experienced some budget cuts, loss of personnel, consolidation with another campus unit, or unit dissolution. You also are experiencing steady or decreased enrollments although textiles and clothing alone or with interior design students constitute about half the students in your school or college. Of that number, by far the majority are enrolled in retailing. The next largest group is studying
interior design and a few students are pursuing general textiles and clothing. There have never been many graduate students, and the number is declining. With the pervasiveness of clothing and textiles in daily life and commerce, why are enrollments low or declining and why is program support difficult to get on the high priority list? If we believe there is significance in a clothing and textiles knowledge base relative to quality of life, then what can and should we as educators and researchers attempt to do about it? Following are some observations on these questions.

1. We must do a better job of communicating our work to significant others in significant ways. We tend to communicate with our own colleagues more than with others. We hire our own graduates, we publish in our own journals, and we attend our own professional meetings. All of which we must do.

However, faculties are richer when they also have quality staff educated in disciplines basic to textiles and clothing or from parallel disciplines. Some of the best research is done with interdisciplinary teams. The social science studies of textiles and clothing were launched by sociologists and textiles and clothing faculty working together. The research on protective clothing being conducted at Michigan State University by Orlando and Branson is in cooperation with a pesticide research team. Munson's thermal studies at Kansas State University are in cooperation with an engineering group. Such collaborative efforts communicate to other researchers the skills of textiles and clothing researchers, new perspectives on human problems, and help textiles and clothing researchers sharpen their skills in defining research problems and conducting the research.

We are now launching our own professional journal. That journal will be successful if it also publishes relevant works by authors from outside textiles and clothing departments in colleges of home economics or human ecology and is subscribed to by others outside these institutions as well as within.

There is a great need for us to communicate more effectively and in a sustained manner with those who hire our graduates. It is remarkable how little impact our profession has had on the apparel and textiles industries. I wonder how many of our programs in 1981 have a significant curriculum component in apparel design and production? With the large number of students who want careers in retailing of textiles and clothing, we have done little to broaden the base of the retailing curriculum to include apparel production. Apparel manufacturers are more receptive to women in management positions and will work in an advisory role for curriculum development. When they recruit, they appreciate knowing the program from which the graduate is coming and are more likely to seek those graduates.

Similarly, there is a need to communicate effectively with our experiment station directors, private sources of funding, legislators and government agencies, and the public. My work with Cooperative Extension has demonstrated vividly for me the values of sustained public relations efforts. It helps keep the program relevant and it is an extremely effective support base.

The academic sector could profit by helping the public develop a better understanding of the textiles and clothing field. It is disappointing that a writer of one or two books on how to dress successfully can make such an impact when the profession with the knowledge base is little understood.

2. Our work must be production oriented as well as consumption oriented. The quality of life research we have heard discussed looks at the impact of clothing on individuals. Does it provide data for the producers of clothing so that more adequate or appropriate choices will be available to meet human needs?

The Futures Committee of ACPTC has clearly pointed out that the Comprehensive National Plan for New Initiatives in Home Economics Research, Ex-
tension and Higher Education does not directly address clothing and textiles issues. That is a concern, but I think a greater concern is that it deals with responses to what is available in the marketplace rather than affecting what is made available to consumers of goods and services. Our research and other professional efforts should be toward affecting what is made available, not merely coping with it.

3. Our work must be resource effective. From a research perspective, we need to have comprehensive research programs in which a team of scholars addresses an issue with the help of a number of graduate students. Such programs produce better quality research than do many isolated studies, are efficient in data collection and processing, and graduate students gain a better research background.

Further, research topics must be evaluated for potential impact. For example, if the choice of textiles for interiors has very little impact on energy conservation for household heating, then refined measurements of the reflection off drapery fabric surfaces is not valid. We must take care not to squander refinements in research design on trivial questions.

With reduced staff we are still obliged to conduct research, work with graduate students, teach undergraduates, and review programs. When curricula are revised, careful attention must be given to letting go of obsolete programs. Staff responsibilities will need to be planned longitudinally, that is, those who teach two terms are free to conduct research and write the next term.

The clothing and textiles profession must take a hard look at the way it functions in order to have a viable place in academia by the year 2000. I have attempted to suggest a few ways that I think will help assure that place.

RESOURCE EXHIBIT 1981

Elizabeth A. McCullough
Kansas State University

The original purpose of the Resource Exhibit was to give ACPTC members the opportunity to share teaching ideas, materials, and methods with others and to examine new books on the market in clothing and textiles. An announcement was sent to all Central Region members in the spring mailing. Members were encouraged to send a description of their teaching resources to our committee for review and possible acceptance for display. Unfortunately, only a few people responded and membership participation in the exhibit was cancelled.

Some members, however, are interested in pursuing this idea again next year at the Minneapolis meeting. In addition to member displays, commercially available visual materials such as slides and films could be exhibited instead of books. The audiovisual equipment could be provided by the University of Minnesota at minimal cost to the organization. If any of you would like to have some type of forum where teaching resources could be shared at the next regional meeting, please indicate this on your evaluation forms or contact one of the new officers.

This year's Resource Exhibit is a book exhibit. About 250 textbook publishers were invited to display books about topics related to textiles and clothing.
In addition, some organizations, such as the American Apparel Manufacturers Association also were invited to exhibit their publications.

The Resource Exhibit is located in the Empire Room and will be open from 1:30 to 5:30 p.m. today. The materials are organized by subject matter on four long tables. Signs on the tables will help you find your areas of interest. Some books do not fit neatly into one subject category, so I urge you to browse through the entire exhibit. Prices are listed on the inside front cover of the books. In the exhibit, there are many brochures and booklists that are available for you to pick up. These materials are positioned on green sheets that say "Take One." Please do not remove any publications from the exhibit unless they have been placed on a green sheet.

After the exhibit, the books will either be sent back to the publishers as requested or donated to the Kansas State University library. Some ACPTC members have graciously agreed to exhibit their personal copies of some books, and I will return these materials to their owners.

Members of the Resource Exhibit Review Committee will monitor the exhibit. I would like to thank them for their assistance in advance: Kay Grise, Carolyn Callis, Lois Korslund, Bonnie Davis, and Lynn Sisler.

Since the theme of this meeting is resource consumption, I challenge all of you to ask your campus librarians to order some of these books. It is our responsibility to update and expand our library resources in textiles and clothing. If we don't do it, no one else will! I urge you to use your time in the exhibit wisely--jot down the authors, titles, and publishers of the books that students and faculty in your department might use. Then follow through by ordering them for your library or for your own personal collection.

THE IMPACT OF FORMALITY AND SIMILARITY OF ATTIRE ON OBSERVERS' DESCRIPTIONS OF BUSINESS INTERACTIONS: A CONTENT ANALYSIS APPROACH*

Mary Lynn Damhorst
The University of Texas at Austin

My study was an examination of the influence of clothing formality on perceived interpersonal interactions in business office settings. Of particular interest was the effect of clothing formality on the use of social perception dimensions by office employees. Subjects constructed free-response descriptions of drawings of persons involved in communication situations. The responses were recorded, coded, and analyzed for differences in content among clothing treatments. The free-response mode of data collection enabled access to subject-selected dimensions and minimized researcher bias in the shaping of results. Content analysis allowed examination of a diverse range of types of descriptors in the verbal responses.

Subjects were 64 male and female employees of private business establishments in Austin, Texas. Stimulus materials were four line drawings of male/female dyads depicted in office settings. The interviewer asked subjects to describe what was going on in each of the pictures.

Four treatments of each picture were devised. The apparel of the stimulus
persons was varied according to norms of formality for traditional business office setting. In accordance with a Latin square repeated measures design, each subject saw one treatment of each picture and only one view of each formality treatment across pictures.

Adopting a grounded theory approach, a content analysis system was developed directly from the picture descriptions. The researcher, along with two content analysis experts, examined a representative sampling of the picture descriptions. Trait, behavior, attitude, and role attributions were categorized. Forty-five categories were isolated for analysis.

Two judges were trained in the use of the category system. After dividing the descriptions into units of analysis, the judges applied the content system to all manuscripts. All disagreements in category assignment were negotiated by the two judges until agreement was reached.

To determine the effect of experimental treatments on category usage by subjects, the frequency of separate categories was summed for each description. The sums were then converted to control for discrepant verbosity of subjects. The proportional data were treated with an arcsin transformation and entered into analyses of variance.

The casual and formal business apparel had a fairly prevasive impact on content of the subjects' responses. The formality information significantly influenced distribution of role and status attributions. For instance, both male and female persons were assigned managerial roles more often when they wore suits. Behavior and trait descriptions of only the male stimulus persons varied according to formality treatment. Men wearing suits in the presence of casually dressed women were described as more directive and evaluative in their communication behaviors. Men in casual attire adjacent to women in suits were seen as more passive in the interaction. Descriptions of interpersonal attitudes and social context also varied according to formality and similarity of attire.

The clothing cues had a greater influence on descriptions of relationships than upon trait inferences. Overall, a fairly elaborate integration of relational concepts was constructed around the clothing symbols.

*Ph.D. dissertation, University of Texas, supported by the ACPTC-CR Graduate Fellowship.

**Special Interest Group I**

**Summary: TEXTILES' ROLE IN AN ENERGY CONSCIOUS SOCIETY**

Deanna M. Munson, Interest Group Coordinator
Kansas State University

The purposes of the Special Interest Group discussing "Textiles' Role in an Energy Conscious Society" were to (1) define procedures that are being used to conduct research including special equipment, facilities, or analytical procedures, (2) report significant findings that advance the base knowledge of
energy related issues, (3) identify current limitations of the research projecting expansion and solution of these limitations, (4) identify future needs in energy research issues, and (5) identify where work has been published as well as other possible sources of publication to be considered.

A panel consisting of ACPTC members actively engaged in energy related research included: Elizabeth McCullough and Geitel Winaker, "Clothing and Human Comfort"; Eleanor Woodson and Deanna Munson, "Interior Textiles and Energy Conservation"; and Carol Easley, "Maintenance of Textile Products and Energy Conservation." Geitel Winaker also reported results of work done by Susan Kipp, a graduate student. Deanna Munson reported results of work of other researchers at her institution, Barbara Reagan and Ludwig Villasi. Carol Easley referred to work conducted by the United States Air Force as well as at her institution.

Concerning the topic "Clothing and Human Comfort," laboratory methods of measuring insulation were discussed including (1) fabric measurements, (i.e., guarded hot plates, Cinco Finch devices), (2) clothing systems using manikins (i.e., life-size manikins of single circuit or segmented, stationary or movable, dry or sweating designs) and thermography systems. Methods of measuring the thermal effects of clothing by conducting studies on people also were discussed. Better pencil and paper instruments to measure human comfort in indoor environments and to estimate clo value in field research were reported, including instruments using polar adjective scales with responses on an 11-point certainty scale. Using this scale, responses are transformed by the Probit transformation before analysis by analysis of variance and correlation. Polar adjectives deal with the subjects perception of outdoor and room conditions, personal feelings of comfort, activity level, and physical well-being and amount and type of clothing. Also work to improve the Nevins garment checklist and to measure clo value in the field was reported.

Reports on the use of interior textiles for energy conservation included descriptions of measurement methodology and the resulting insulation values for numerous window and wall coverings. Of 34 window covering samples tested (including draperies, curtains, shades, blinds, and shutters), it was found that there were differences in performance of the 34 samples tested; however it was the mode of installation and subsequent management that produced even greater changes in energy conservation. The amount of incidental light reflected by the window treatment was important in conserving summer cooling.

Recognizing that wall covering effectively adds another layer between the occupant and outside environment, 15 wall coverings of differing fiber and construction characteristics were evaluated for thermal insulation properties using the guarded hot plate. As expected, this study showed that the thickest fabric provided the greatest amount of insulation, but thermal conductivity per unit thickness measurement revealed fiber characteristics construction characteristics significantly affected the thermal insulation properties of wall coverings. As a means of conserving energy, it has been suggested that textile products be laundered at lower water temperatures. Until recently, pesticide studies had exclusively used hot water temperatures for laundering contaminated clothing. Results were reported from two studies that investigated the effect of varying water temperature on pesticide removal from fabrics. Both studies found a trend for increased removal with increased water temperature for most pesticides under investigation. However, there was not always a significant difference between temperature combination of "hot, warm, and cold." Reasons for some inconsistency could be due to stability of the pesticide or the fact the pesticide was readily soluble in water and/or detergent and as a result was effectively removed at any one of the widely differing temperatures. The researcher generally concluded that although cold water temperatures are energy
conserving, they are not as effective at removing pesticide residue from apparel clothing.


Special Interest Group I: Computer-Aided Instruction

CAPITALIZING ON COMPUTERS

Laura Dunn, Oklahoma State University

We are entering a new era--The Information Age--where the computer will have a great impact on our society. If we are to take advantage of the ever increasing quantity of information, we must master the use of new computer-based tools and "work smarter."

Human dependence on computers has already become irreversible. Rapid advances in the integration of computer capabilities with information handling technologies such as television, hard copy printers, and industrial robots will continue throughout the '80s. Technological change is inevitable.

Ignorance of computers will render people as functionally illiterate as ignorance in reading, writing, and arithmetic. The majority of people will not need to become computer programmers, but many will become purchasers of computer software and will need to know how to choose among available programs. Many people also will be using computers in their work; these people will need to know how their ideas can be programmed and how computers can be used to extend their human capacities. It will be an injustice not to give students the opportunity to see how computers can and are being used in their chosen fields. The university should lead the way in introducing computer technology in all areas.

In the past decade, expenditures for higher education academic computing in research, instruction, and administration have more than doubled; however, over one-half of the students who use computers in higher education are concentrated in three departments--Computer Science, Engineering, and Business.

Computer usage at both the secondary and elementary level is increasing. A reasonable estimate of computer usage for instruction in all schools is approximately 50 percent, with expenditures approaching $700 million. College professors should be aware of this trend as there are implications for the university. High school students are increasingly choosing colleges on the basis of their computer facilities. Presentation modes will have to change to appeal to a generation of students taught via the computer at the secondary level.

Understanding the development of the computer might be a helpful starting point for beginning computer users. In 1947, a full electronic computer contained 18,000 tubes, weighed 30 tons, and cost $500,000. Today a microcomputer with 20 times the computational power has been reduced in size to a one-fourth-inch square silicon chip costing $10. Technological advances such as this con-
...and the price of computer systems continues to decline to the point that in the near future, a computer will be as much a part of life as the telephone or automobile.

Technology is changing rapidly, and the number of firms making and selling computer systems is virtually exploding. The combination of a rapidly changing, complex technology and a tremendous growth in the number of computer systems available results in a very complicated environment in which to make decisions about computer usage. Within this complexity, the professor must decide how and when to use the computer.

The terminology (jargon) associated with the computer industry is one hurdle that must be overcome by anyone considering using a computer system. The term "computer" refers to an electronic digital device that contains these major components: the central processing unit (CPU), a storage facility, and at least one input and output (I/O) device. The computer can do only what someone has programmed it to do. The computer carries out a set of instructions called a program. Within the computer, letters and symbols are represented by a certain code of zero's and one's.

To work with a computer system, an input device and an output device are needed in addition to the CPU. Most small systems will use a CRT (cathode ray tube) or a television terminal instead of punched cards as an input device. The CRT also can be used for output; however, if a printed copy is desired, a printer will be used.

Manufacturers have attached names such as mini-computers, microcomputers, main frame, and small business computers to indicate the size of the central processing unit. These names tend to overlap and as time progresses, it becomes more difficult to distinguish among the groups.

One of the main differences in computer size is word size. Word size is described as the number of bits that the computer manipulates at once in the CPU (a bit represents a one or a zero). The most popular large computers (e.g., IBM 370's) use a 32-bit word. These very fast and very expensive machines may cost $1 million or more and are referred to as main frame computers.

Since large computers are very expensive, the mini-computer was developed in the mid-1960s with a smaller word size. Today, most mini-computers have a word size of 16 bits with a price ranging from $1,000 to over $20,000 for the central processor alone.

Microcomputers were developed in the 1970s. Currently, most microcomputers have 8-bit word sizes. They are called "micro" because the entire processing unit (except memory) is on one electronic chip. Microcomputer prices start about $500 for the micro processing unit and a small amount of memory. The difference in word size can be important to the user. For example, for large numbers, the small computer may perform an operation in several steps, where a large computer would perform the operation in only one step.

Basic (beginner's all purpose symbolic code) is the most common language available for the small computers. This language is not standardized except for the simplest statement types. Standardization is needed since this would allow programs written in basic to be run on almost any machine that has a basic compiler.

Developing a computer program is expensive because it must be done by humans. Little has been done in recent years to increase programming productivity. It has been estimated that it takes 40 hours to produce one hour of software. Contract programming may cost as much as $50 per hour and is seldom less than $20 per hour.

Microcomputers are becoming increasingly evident in classrooms across the country. The micro offers self-contained memory and computing capability, low
acquisition cost, low operation cost, simplified operation, faster turnaround, and the ability to interface with many types of peripheral equipment. Most micro users believe that these advantages far outweigh the limitations of small memory constraints and the lack of availability of sophisticated software for micros. A wide variety of standard hardware is available in the form of disc drives, modems, monitors, printers, etc. Micros offer significant opportunities for programming. Writers can incorporate some "fun" aspects into their programs by using color graphics, musical sounds, and various buzzes.

At present, one large obstacle to widespread use of computers is the technical knowledge required on the part of the user (i.e., skills in programming and in understanding how the computer operates). Research is being conducted to reduce the initial technical knowledge required. New methods of communicating with the computer are being developed. Voice recognition and response is among the most promising. This approach will allow the user to vocally converse with the computer.

We are on the verge of a tremendous change in the ways computers are used. Students will dictate the use of this technology. Faced with these realizations and a lack of technical knowledge, the college professor will have to make difficult decisions. Increased knowledge in the area of computer technology should assist professors in making the transition to the "information age" and to computer usage in the classroom.

FASHION COUNT COMPUTER SIMULATION

Jeannie Ireland, Illinois State University

Fashion counts are used to determine fashion trends. Retailers use fashion counts as one factor in helping them predict fashion trends. They then determine whether to order items, advertise them, put them on sale, mark them down on clearance racks, or otherwise dispose of them.

Generally, one or two items are counted. Counting a larger number of items at the same time is difficult, especially in busy locations. This program permits you to count one item at a time with three variations of each enumerated. The computer randomly selects one of three specific aspects for the variable you select. You have six variable choices that are listed below. The computer selects one of the aspects of the variable from those in the parentheses for your count.

1. Women's skirts (length, fullness, fabric weight)
2. Men's suits (trousers, lapels, color)
3. Children's playwear (pants, T-shirts, color)
4. Women's evening wear (fabric, color, neckline)
5. Men's shirts (fabrics, collars, sleeves)
6. Children's shoes (play, color, texture)

You are then asked to select the specific group of people you would like to count. If you selected a variable using women's garments, you choices are--

1. High-fashion women
2. Career women
3. College women
4. Middle-class women

If you selected a variable using men's garments, your choices are--
1. High-fashion men
2. Blue-collar workers
3. White-collar workers
4. College men

If you selected a variable using children's garments, you choices are--
1. Preschool boys
2. Preschool girls
3. Grade school boys
4. Grade school girls

You are then asked to select a location at which to count. Although you
would probably find examples of almost every age, sex, and type of person in
any given location, you should select the location where the greatest number
of individuals in the group you are counting would be present. The program is
designed with this in mind and will not permit counts that would probably be
unsuccessful. The locations from which you may select include--
1. College campus
2. Country club
3. High-fashion restaurant
4. Public cafeteria
5. Business lobby or office
6. Nursery school
7. Grade school playground
8. Dormitory lobby

The program then asks for the number of people counting the fashion vari-
able. Include yourself as one. Although an increased number of individuals
counted increases reliability, keep in mind that people may interpret various
aspects differently. Therefore, the greater the number of individuals counting,
the greater the possibility of error. Training counters will decrease the
error factor but will probably not eliminate it.

The next factor the program requests is the total number of people to
be counted. Counting fewer than 50 individuals in any given location at a given
time will increase the error factor and probably not provide a true picture. The
program is designed to reject numbers less than 50 times the number of indivi-
duals counting.

After you have entered all the variables, the program will provide a
summary of your choices. At this time, you may make any changes you desire.

After verifying your choices, the program is ready to simulate your fashion
count. For purposes of prediction, the program makes the assumption that counts
are done at specified intervals. You are asked to indicate the number of counts
you desire to make prior to fashion prediction. The program accepts 1 to 12
counts. However, bear in mind that waiting too long may make deliveries of
merchandise too late for sale at good markups. Too few counts may not provide
sufficient information to make a decision.

Once you have selected a number of counts, the program asks whether you
want a printout of the chart or will copy the numbers from the chart on your own.
If you select a printout, be sure the printer is turned on.

The computer then provides a graph of your count to make it more visual.
You may desire to copy the graph for future reference. It will help you deter-
mine the stage of the fashion cycle a variable is in. The graphs provided by
the computer are in percentages so different counts can be compared. After
all the counts have been made, the student makes a prediction and uses it to
order merchandise, plan an ad campaign, have a sale, or dispose of the merchan-
dise. After the student's work is completed, the student either gets "fired"
or "promoted."
In the past, familiar uses of computer technology in testing were related to scoring of answer sheets and analysis of data recovered from scoring. The increasing demands for self-paced learning and the offering of course and degree credit by examination have resulted in the need for better and more efficient means of test construction and administration. Both instruction and testing should be based on common instructional objectives or competencies. The utility of computer-assisted preparation and execution in educational environments is within reach of virtually every educator.

Five ways in which the computer can support test preparation are--
1. Item banking - storage of questions in a machine-readable form;
2. Item generation - questions generated that are dependent upon input variables (usually numbers);
3. Item attribute banking - the banking of item properties for test construction systems;
4. Item selection - computer assistance in selecting items according to attributes specified by the test constructor;
5. Test printing - tests reproduced on carbon masters, reprinted in large quantities, printed tests with items resequenced at random, and printed with unique copies for each student.

The research currently being conducted through the Clothing, Textiles and Merchandising Department at Oklahoma State University involves the development of a computerized advanced standing examination in basic clothing construction. The competencies for basic clothing instruction were identified through a survey of clothing faculty in member institutions of the National Association of State Universities and Land-Grant Colleges granting 15 or more bachelors' degrees in clothing, textiles, and merchandising.

Test items were developed based on the 77 competencies established by the survey and coded into 10 topic areas: (1) pattern selection and preparation, (2) fabric selection and preparation, (3) sewing equipment, selection, care, and use, (4) pressing equipment and techniques, (5) basting and machine stitching, (6) seams and seam finishes, (7) darts, pleats, and gathers, (8) facings, interfacings, and linings, (9) garment closures, (10) hem construction. Questions were pretested with students enrolled in the basic clothing construction course. The item, alternatives, and correct answers were keyed in on the computer as they would appear on the screen. The applications programmer at the Oklahoma State University Computer Center developed the computer program for the advanced standing examination using Pl 1. Some of the various capabilities of the computer program include the ability to add new topic areas; add, change, or delete test items; change the number of test items within categories or change the number of items in the examination. The program and the test items are stored on an IBM 3350 Disk Pack, with a backup recorded on magnetic tape.

An example of the format for item selection is shown below:

<table>
<thead>
<tr>
<th>Topic Areas</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Items per Area</td>
<td>85</td>
<td>60</td>
<td>65</td>
<td>45</td>
<td>25</td>
<td>45</td>
<td>35</td>
<td>55</td>
<td>65</td>
<td>20</td>
<td>500</td>
</tr>
<tr>
<td>Number Selected for Exam</td>
<td>9</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>50</td>
</tr>
</tbody>
</table>
The computer testing systems allow interaction between the student and the computer. A folder with six illustrations is provided for use with selected questions on (1) pattern layout, (2) pattern markings, (3) fabric preparation, (4) sewing machine parts, (5) stay-stitching, (6) small sewing equipment and pressing.

When the student sits down at the terminal (after being logged on by the instructor), the student sees the following:

**MODULE 1 COMPUTER TEST**

**ENTER YOUR STUDENT ID NUMBER =**

After the student enters the ID number, the computer prints:

READ EACH QUESTION CAREFULLY.

TYPE THE LETTER (A, B, C, D) WHICH BEST REPRESENTS YOUR CHOICE OF RESPONSES.

PRESS THE "RETURN" KEY.

THE COMPUTER WILL DISPLAY YOUR SELECTION AND ASK YOU TO TYPE "YES" OR "NO" TO VERIFY YOUR RESPONSE.

- IF YOU ARE SATISFIED WITH YOUR RESPONSE, TYPE IN "YES," THEN HIT "RETURN OR ENTER."
- IF YOU WISH TO CHANGE YOUR RESPONSE, TYPE "NO," HIT "RETURN OR ENTER," THEN TYPE IN YOUR NEW RESPONSE

UPON COMPLETION OF THE EXAMINATION, THE COMPUTER WILL DISPLAY "END OF TEST: YOUR SCORE IS ___." HIT "RETURN OR ENTER" TO BEGIN EXAMINATION.

GOOD LUCK!!

Information concerning an individual's examination is recorded. The topic area, item number, correct answer, and student response for each test item can then be printed out for the instructor to use in discussing the examination with the student. The form in which it appears is shown below.

<table>
<thead>
<tr>
<th>Topic Area</th>
<th>Question Number</th>
<th>Correct Answer</th>
<th>Student Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>013</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>01</td>
<td>026</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>02</td>
<td>003</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>02</td>
<td>010</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>02</td>
<td>040</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>03</td>
<td>020</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>03</td>
<td>039</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

Another capability of the computer is the ability to store all the students' scores by identification number. The instructor can then ask for the following:

**PRINTOUT OF ALL STUDENTS' SCORES**

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>RIGHT ANSWERS</th>
<th>WRONG ANSWERS</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>349276</td>
<td>R=43</td>
<td>W=7</td>
<td>86</td>
</tr>
<tr>
<td>283514</td>
<td>R=33</td>
<td>W=17</td>
<td>66</td>
</tr>
<tr>
<td>780143</td>
<td>R=29</td>
<td>W=21</td>
<td>58</td>
</tr>
<tr>
<td>813964</td>
<td>R=39</td>
<td>W=11</td>
<td>79</td>
</tr>
<tr>
<td>174536</td>
<td>R=47</td>
<td>W=3</td>
<td>94</td>
</tr>
</tbody>
</table>

The present course in basic clothing construction consists of six one-hour credit modules. We are investigating the possibility of using the Apple II computer for keeping student records.
A tutorial computer program is used at Oklahoma State University in a course designed to provide students with an understanding of the basic mathematical concepts involved in retailing. Students who enroll in the class have varying abilities and varying backgrounds in mathematics. The first or second day of class a basic mathematics pretest is given to help students become aware of the mathematical procedures they should know before they begin the course. The test is composed of simple problems such as "36 is what % of 155." Out of a maximum of 30 points, student scores during the past semester ranged from 3 to 27 with a mean of 16. Due to these differences, an individualized format is used in the course. This course seemed particularly appropriate for the inclusion of computer-assisted instructional units. The computer can explain how to do simple calculations, such as determining what percent 42 is of 238, over and over and over until the slowest student is able to grasp it. The computer never tires and the students who learn faster are not bored, because they do not have to listen to the explanation but once.

The central processing unit at Oklahoma State University is an IBM System 370 Model 165. The terminal used is a Digital Decewriter II. This terminal prints the lessons on paper allowing the student to take the paper copy, use it as a study guide, and turn it in for credit.

Fourteen relatively short interactive lessons designed for use with the textbook Mathematics of Merchandising are currently being used. The majority of programs teach only one concept, and some include an explanation of selected mathematical procedures needed in that particular lesson. For more complex concepts, a short introduction and "hints" are included at the beginning of the program.

The lessons consist primarily of problems with three to four possible answers. If the correct answer is selected, the student is given the next problem. If an incorrect answer is chosen, the branching technique is used to inform the student what mistake has been made. Sometimes a hint is given to help the student rework the problem and the student is told to select another answer. If the second answer is incorrect, the same type of branching procedure occurs. The student is not allowed to proceed to the next problem until the correct answer has been selected or until the computer has worked the problem for the student.

Some problems are not suitable for multiple choice items. When these problems appear in a lesson, the student is asked to type in the answer. Explicit instructions are given for the form in which to type the answer, because the answer has to be entered by the student in exactly the same form as the programmer entered it in the program.

Branching also is used with this type of problem when an incorrect answer is given. The student is told the type of error made and is given a hint to consider when reworking the problem. Then the student is required to enter another answer. If the second answer is incorrect, the student is given the correct procedure for working the problem and the correct answer. A student who selects every right answer moves directly through the program while errors cause one to take detours.

Optional practice problems are provided in some of the programs. If a student chooses to work the practice problems, the student is given a problem and told to type in the answer. When the answer is correct, the student is given another problem. When the answer is incorrect, an explanation of how to work
the problem and the correct answer are given. Another problem then follows. This procedure continues until the student has completed all of the practice problems.

Development of the programs has been gradual. The first program was developed by a graduate student as part of her master's thesis in 1975. Other programs were developed over a period of three or four years. They are continually being revised and refined. As each lesson was programmed, every possible answer was selected to check for proper sequencing and proper branching. The lessons also were checked for typographical errors. Then a student was asked to work the lesson and to note any errors or confusing statements and to give comments regarding the program. If revisions were indicated, they were made before the programs were put into use.

The biggest problem in program development was the rapidly changing equipment in the computer center. During the five years we have been using the programs, we have had to reprogram the lessons three times in different languages. We are currently using BASIC. In addition, a 1980 revision of the textbook caused us to revise most of our programs.

During the first two years, the computer was frequently "down" or being used for payroll or enrollment to the extent that we had delays of from a few minutes to a few days. This frustrated both the programmers and the students. Although the computer is still "down" some, this is not a major problem at this time.

Even though we have a terminal in the home economics building and six or seven in the computer center that students may use, a problem sometimes occurs when all 45 students wait until the day before the assignment is due and try to use the terminal all at one time. Students soon learn to avoid this problem.

The major problem seems to be in teaching students to type the information into the computer without making errors. The first time the students use the system approximately 90 percent make an error in logging in and are unable to get it corrected themselves. This means that a lot of faculty or graduate assistant time is spent on a one-to-one basis helping them correct their errors and get into the program. A similar problem occurs when the student types "$30" and the answer is $30 and the computer says "Wrong!" Although we tell them exactly how to answer (for example, "use a dollar sign"), they still make many errors. After the second lesson, however, the "I need help" phone calls become almost nonexistent.

The biggest benefit to the students is probably the familiarity with the terminal and how it works. Students are much more confident when a terminal is put before them if they feel they have "mastered" one before. In addition, they learn how to read computer printouts, something they may be required to do daily on the job. Students also have indicated that the computer lessons help them understand the concepts, especially when they complete the practice problems. Many students also have said it makes learning fun.

In the future we plan to develop more tutorial programs on selected concepts that have proven difficult for students. One of our programs uses a variation of the hangman game. The computer prints a portion of a man each time a student answers a question correctly. At the end of the lesson, if no errors have been made, an entire man appears. Various symbols can be used to build a man on the computer.

Students liked this variation so we plan to develop more game-type programs in the future. Overall we are extremely pleased with the results of our efforts. It has been a beneficial learning experience for faculty, graduate assistants, and undergraduates. The ability to use the computer is becoming a necessity.
for all graduates, particularly in fashion merchandising, and we plan to con-
tinue and expand in the future.

Special Interest Group II

RESEARCH IN RETAILING: DIRECTIONS FOR THE '80s

Sara Douglas, University of Illinois

The purpose of this special interest group was to raise questions concern-
ing our present position in terms of retail research and to explore possible
future directions that we might take, both as individuals and as a network.
While retail research is certainly not new, it has been undergoing important
changes. Thorough research approaches and sound methodology have gained in
significance recently as marketing and strategic planning have grown increas-
ingly important. There is a need to look at the differences between applied
and basic research in retailing, to gain better focus and definition, and to
examine overlapping streams of conceptual and empirical inquiry.

Speakers for this session were Mr. Stephen B. Appel, Ms. Dawn Pysarchik,
and Dr. Brenda Witter.

Mr. Appel, vice-president for research for May Department Stores Company,
Inc., challenged academic researchers to develop better insights into the
subject of retail research from a practitioner's point of view. He noted that
increased communication between practitioners and academics is needed and can
lead to the development of research designs that fulfill the objectives of both.

Ms. Pysarchik, instructor in retailing at Michigan State University,
presented results of a telephone survey of department stores nationwide she
conducted. The survey was designed to help identify areas of current research
endeavors and to learn what areas of research retail practitioners viewed as
being potentially valuable. She found that few research units in retail cor-
porations had either asked an academic unit to do research for them or had
actively cooperated with an academic unit to conduct research. An oft-cited
reason for this situation was that university-conducted research was viewed as
academic and therefore less practical from their point of view.

Dr. Brenda Witter, assistant professor in retailing at Michigan State
University, discussed retail research funding. She included suggestions for
developing sources from universities, foundations, and state and federal
agencies and presented insights into the "grantsmanship game plan."

It is hoped that this session raised questions and stimulated interest.
To gain better insight of the interest and background that could lead to a
regional network, informational questionnaires were distributed to those who
attended the session.
A number of people in the Central Region have been actively engaged in some phase of textile conservation. Some of them participated on a panel to exchange ideas about textile conservation activities at their schools. Margaret T. Ordóñez, Kansas State University, organized and chaired the panel, which included Josephine Megivern, University of Northern Iowa; Mary Lynne Richards, Texas Tech University; Virginia Gunn, University of Akron; and Zoe Annis, graduate of Kansas State University and Textile Conservator of the St. Louis Museum of Art.

The following is a report from each panel member on the major ideas and experiences that were shared with those attending the forum.

Josephine Megivern

I am pleased to have been asked to participate on the panel. My comments are from the perspective of a relative beginner in the field of costume collection and conservation. History of Costume was added to our course offerings five years ago. One of the class activities was a visit to a local museum. Student response confirmed the benefit of increased interest when actual garments were seen; however, planning for the experience would be simpler if the teacher could know ahead of time what the class would see, and so the idea was born for a departmental collection.

The department head's approval to initiate a collection was obtained. An interview with a university public relations staff member resulted in the printing of a story explaining our plan and its purpose in a publication mailed to parents of students, alumni, and friends of the university. From a nucleus of approximately eight garments and miscellaneous textile items left by previous faculty members, the collection grew to over 200 items during the first two years. Provenance information was recorded, and a temporary identification tag was attached to each item, but the need for an established registration system and conservation and storage procedures became increasingly urgent.

A university research fellowship for summer 1980 allowed me to begin the needed research, which included establishing a registration system, learning appropriate conservation and storage procedures, and documenting the 25 dresses in the collection. Visits were made to the university museum, two local museums, and the textiles and clothing department at Iowa State University to observe and discuss their collections. Study for the documentation was done at the University of Northern Iowa and Iowa State University. The summer 1980 textile conservation workshop at Kansas State University also was an integral part of the proposal.

Since then, some conservation supplies have been acquired, and vacuum cleaning of storage areas and wool items in the collection has been ongoing. The collection continues to grow. As storage space became inadequate, the department head made arrangements to use a room in another building; hanging, shelf, and drawer storage has been created from unused cases and cupboards reclaimed from university storage.

In March 1981, I was accepted to participate in an exhibit workshop sponsored by the American Association of State and Local History. Exhibits of costumes can serve at least three functions: (1) improve aesthetics in the home economics department, (2) be educational, and (3) call attention to the historic aspect of the clothing and textiles program. Proper handling and exhibit techniques must be observed during display to avoid further deterioration from light, humidity, or stresses put on the garment.
This fall an interdisciplinary seminar, "Care and Use of Historic Costume," is being offered and six students are enrolled. Three are home economics majors; the others are history, anthropology, and theater costume majors. The history major expects to earn a master's degree in museology, and the anthropology major is interested in a museum career after completing her bachelor's degree. All are interested in working as museum volunteers.

Several problems related to acquisition and maintenance of the historic costume and textiles collection have become apparent. The time demands for acquisition and subsequent care, storage, and display increase. As a collection grows, responsibility for the collection should be considered part of a faculty member's load. Training and supervision of student assistants and volunteer workers is very time consuming. My immediate goals concerning the collection include refining the forms used for permanent records and completing a policy statement for the collection.

Mary Lynne Richards

Texas Tech University offers a graduate degree in museum science that is recognized for its quality by museum professionals throughout the United States. A number of the students pursuing this degree often enroll in "History and Philosophy of Dress," and "History of Textiles," two courses offered by the Department of Clothing and Textiles. The museum science program of study does not include course work pertaining to the identification, care, and maintenance of textile artifacts. To fill this void, the Department of Clothing and Textiles developed a new graduate course entitled "The Conservation of Textiles and Clothing."

During the initial planning stages, a number of costume and textiles curators employed in major American museums were contacted for their recommendations concerning the content of the proposed course. Unanimously they all stressed the importance of how-to information coupled with hands-on experience, having found students lacking such practical knowledge though being well versed in museum philosophy and theory. For additional ideas, I enrolled in the conservation course taught by Dr. Margaret Ordoñez at Kansas State University. This experience was very useful in terms of planning equipment needs and becoming more familiar with current conservation literature and agencies.

"The Conservation of Textiles and Clothing" was first offered at Texas Tech University during the summer of 1981. The course was held in a concentrated two-week format to enable museum professionals, with limited leave or vacation time, to also enroll. In general, the mornings were spent in lecture sessions, while the afternoons were devoted to hands-on application of the information. Each student was required to abstract six journal articles (from 50 articles on reserve in the library), and complete one wet-cleaning project and one repair project. Each of these latter two projects included a preconservation analysis of the item. In addition, the course ended with a short exam about important general concepts and verbal presentations of the completed projects.

A special highlight of the course was a field trip to the Panhandle Plains Museum in Canyon, Texas. This facility not only employs a full-time conservator but has recently received a substantial grant for construction of a large laboratory equipped with the latest innovations in conservation equipment. The students were able to see conservation work in progress, to learn about educational facilities that offer more in-depth study in textile conservation, and to familiarize themselves with conservation equipment not available at Texas Tech University.

The students were given the opportunity to evaluate the conservation course at the end of the two weeks, and the replies were, in general, very positive and
insightful. The concentrated two-week format was approved with suggestions that the course be taken immediately prior to the museum internship, thereby extending the immediate opportunities for hands-on application of the information.

Concerning the course content and projects, the students (many of whom had no background in textile science) found the activities involved in preconservation analysis to be of greatest value. These included microscopic analysis of fibers, burning tests, simple chemical tests, and information about fabric structures.

The students' comments also supported the abstraction of six journal articles, with several persons suggesting that more articles be required during the next course offering. Several students copied all 50 of the reserve articles, and as indicated by later correspondence, either incorporated them into their files, shared them with professional friends, or continued to read well into the autumn.

A few of the students stated that the University should have provided a fully equipped conservation laboratory to facilitate the course activities. Not only would this have been financially difficult to achieve, but permanent laboratory equipment would not have served the best interests of the department in terms of space allocation. Because the graduate conservation course will only be offered on a rotating basis with other graduate courses, all equipment selected for the course had to be portable and storable. Thus, while students did not have the opportunity to work with the most sophisticated conservation equipment, they did learn to achieve admirable results with only modest expenditures—a valuable experience considering the budgetary restraints facing many museums.

The student evaluations greatly supported the field trip experience, and there were recommendations that additional field trips be incorporated into the next offering of the course. This may prove difficult to accomplish as Lubbock, Texas, in most instances, is a long way from everywhere. However, in May and June of 1982, the Department of Clothing and Textiles will be offering, for three graduate credits, the opportunity to visit museums in northern Europe with the goal of studying historic textile and costume collections, display techniques, and storage and conservation facilities.

Each of the students who enrolled in this first offering of "The Conservation of Clothing and Textiles" has proven to be similar to a pebble dropped into a pool of water. Like the ripples that emanate from a pebble, these students are now sharing their knowledge of textile conservation and thereby affecting the work of other museum professionals. Laraine is busy revamping the ethnic textile storage system at the Tech Museum. April has written a handbook that delineates the care of archaeological artifacts, with a specific chapter on textiles that will be distributed to museums in the southwest. Pat is actively involved in the production of a large costume display at the Stoneybrook Museum in New York. Beth is now employed in costume conservation at the Panhandle Plains Museum in Canyon, Texas. Barb shared her experiences and information with a colleague who will be arranging and inventorying textiles at the Independence National Park in Pennsylvania. And before too long, Pey-shuh will be carrying her knowledge of textile conservation back to a museum in Taiwan. It was, indeed, a class to be proud of.

Virginia Gunn

Documenting characteristic dates for costumes in university collections makes them educationally useful for research and display. Such work has been successfully carried out by undergraduate students at the University of Akron. Dating
reports for each costume include (1) detailed line drawings, (2) descriptive text, (3) analytical text and suggested date based on research in primary sources, and (4) fashion plate to suggest proper accessorizing for displays.

Use and care of university collections often brings publicity that opens avenues for community service in the textile conservation area. Such outreach can help preserve a region’s textile heritage as well as open up internship opportunities for students. Activities can include acting as consultant for local historical societies, helping agency administrators prepare plans to generate board support for conservation, helping agencies write proposals for grants to help care for collections, training volunteer textile conservation committees, and assisting in the planning and execution of good displays.

(These points were illustrated by reference to work done with costume collections belonging to the Summit County Historical Society, the Hower House, and the Stan Hywet Mansion, all located in Akron, Ohio.)

Margaret Ordonez

I am sure that many of you are called on to answer questions, give advice, and present programs whether you are at a land-grant institution or not. Service is still part of the job in addition to teaching and research. I have been working with individuals who have old or important textiles in their homes. Many groups have shown an active interest in textile conservation—needlwork guilds, weavers, and quilters particularly. When the word gets around that someone is teaching about how to care for, display, and store textiles, individual response for information abounds. My most typical telephone message from the secretary is that someone called and has some old clothes, quilts, etc. that she/he wants to know how to care for.

I have had to limit my talks to only large groups whose members are specifically interested in textiles. To reach others, I worked with one of the state extension specialists to write about conservation of quilts. This publication, Quilt Conservation, came out this year. It was written for individual collectors, not museums or universities with quilt collections, but the basic information could be of value to anyone. The historic introduction was written by Zoe Slinkman, the specialist with whom I worked.

This summer was the fifth year that I have taught a textile conservation class at Kansas State University. The summer session, the fourth of its kind, was designed for those actively engaged in working with collections. This year the participants included museum personnel, university faculty, graduate students, private collectors, quilters, and weavers from as far away as Maryland. I teach this summer course for credit only to discourage someone from taking it for fun and occupying a space that could be filled by someone who needs the information professionally. The class size is limited so I can give required individual attention during laboratory sessions. I have found that 15 is an ideal number. One third of the two-week period is spent on the how's and why's of textile conservation, one third is lab experiences in cleaning and repair, and one third is visiting museums to view display techniques and behind-the-scenes storage. The course is designed as an introduction to conservation on which individuals can build by personal study, working with their collections, and taking further classes. Students can work on items from our collection or bring their own. This is one way to get some of our textiles and costumes stabilized or repaired but also a way to see and work with a variety of textiles or costumes not in our collection. Jenna Kuttruff's Egyptian mummy cloth is an example. So I learn too, from the textiles that are brought in and from the participants themselves.
I have several students each semester who work on special problems to learn about design of historic costumes or textiles or conservation by working with our collection. This semester I am working with an apparel design major who is learning about hat styles of the twentieth century. Part of her project was to work with a committee to evaluate the composition of our hat collection, deaccession duplicates and unneeded hats, and improve the hat storage. Another student is studying laces, and in the process, identified and mounted for class use laces that illustrate various parts of my lecture on the history of laces. She learned about the characteristics of lace, and the college benefitted from the labeled, mounted laces that are ready for storage or display.

We have had several Kansas State students who have gained experience working in a museum setting as summer interns. I believe this should be a structured experience with a university coordinator, the student, and museum curator, director, or conservator planning activities so that time will be well used, nonlearning tasks minimized, and desired emphasis achieved. A museum internship can be a valuable use of time but needs to be planned well. The student should keep a diary of activities, new learnings, and ideas.

I often have requests from people to repair or clean textiles or costumes that they have in their private collections. When the task is one that I think a student or faculty member who has had the conservation course could handle well, I encourage doing the conservation work. The student or faculty prepares a preconservation analysis with recommended steps for conservation and cost of materials and labor. I offer assistance as needed at this step as well as in following steps. The individual approves the contract before any work is done. Sometimes only part of the work is done in consideration of costs. Other times an individual has a specific request concerning the type of treatment. Most people approve the contract as submitted to them. For anyone interested in free-lance conservation work, the American Institute for the Conservation of Historic and Artistic Works (AIC) Code of Ethics is essential reading.

(Information was exchanged concerning meetings of various organizations related to textile and costume collections and conservation, including ICOM, AIC, New York Conservation Group, Harper's Ferry Regional Textile Group, Irene Emery Roundtable on Museum Textiles, and a textile conference in Como, Italy.)

Zoe Annis

On behalf of the St. Louis Museum welcome to St. Louis.

The building that houses the collections in St. Louis was originally built for the World's Fair of 1904, with the intent that it would be used by the City of St. Louis for an art museum. At this time the museum began collecting a variety of objects and is now internationally recognized for many of its collections. In our museum, the textile collection falls under the Department of Decorative Arts. While it is not a huge collection, it is said to be one of the top 10 textile collections in the United States. We have approximately 1,500 textiles in the collection, which include pieces from all time periods and regions of the world. Briefly, the collection includes Coptic and Pre-Columbian textiles, laces (some dating as early as the 16th century), quilts and coverlets, embroideries from the sixteenth through the eighteenth centuries, tapestries, weavings, oriental rugs, as well as a variety of ethnic costumes and textiles.

Of significant importance is the collection of oriental rugs donated by Mr. James F. Ballard and Mrs. Nellie Ballard White. These date from the sixteenth century on. The Ballards donated half of the collection to the St. Louis Art Museum and the other half to the Metropolitan Museum of New York.

Another collection of great strength is the collection of Greek Island embroideries given by Mrs. Cook. Most of you are familiar with Lindell Boule-
yard by now. It is one of the streets on which this hotel is located. Beatrice Lindell, a prominent St. Louisan, married Mr. Cook, an Englishman who was Ambassador to Greece. It was there that they collected various Island embroideries. This also explains why half of the collection was donated to St. Louis and the remaining portion to the Victoria and Albert Museum in England.

I have been with the St. Louis Art Museum for about two and a half years, and during this time my major efforts have been directed toward organizing and properly storing the collection. As with many museums, our textile collection has suffered from lack of personnel and funds to care for it properly until recently.

At one point the collection had to be moved from one building to another location. I was quite fortunate in that upon my arrival at the museum, a new wing was being completed that allocated new space for business offices, a new library, restaurant, bookstore, and art storage, including textile storage. I then worked on designing facilities that were appropriate for our collection.

Presently, I am working on properly storing the collection. I have volunteers from the local needlework and weaving guilds that come in and assist in vacuuming and rolling objects as well as numerous other jobs. I am also fortunate that our director is conservation minded and would like to have new conservation laboratories built for the Conservation Department.

As Margaret Ordonez mentioned, I spent three months this summer at the Abegg Stiftung in Bern, Switzerland. The Abegg Stiftung was established by a wealthy Swiss man who was successful in the apparel business. His wife is American. Their villa is built just a few hundred feet from the museum and conservation laboratory.

The facilities there are excellent. There is one room for wet cleaning, a sewing workroom, and a study room. The washroom floor is angled so that large pieces can be washed on the floor and water drained in a floor drain. The storage facilities are made of teakwood (I was told insects don't eat teakwood). They also have a library that may be used by the public.

Most of the objects there are in very good condition. They do not usually collect costumes, rugs, or tapestries, but rather collect weavings, embroideries, Coptic-Egyptian pieces, chasubles, etc. The Abeggs are continuously purchasing new pieces, which is something most museums and fewer college collections are able to do. They feel their storage is getting too crowded, so they plan to finish the floor above the facilities to alleviate this situation. Of course, being in the mountains of Switzerland makes the problem of air pollution nonexistent. It is obvious the Abegg Stiftung does not have the problems that most college collections and public institutions are faced with.

Most valuable was the opportunity to learn different conservation techniques. I did not always agree with every treatment procedure, but it was always interesting to observe the outcome.

(Zoe designed and executed a major exhibition for the museum in 1980 displaying quilts and coverlets. Her exhibit methods were the least harmful of any large textile show I've seen.)

During the question and answer and sharing period that followed the panel, Marian Butler of the Ohio State University, Holly Schrank of the University of Kentucky, and Nelda Crist of Indiana University told about classes and collections with which they have worked. The group decided that they would like to continue having a special session on subjects related to historic textiles and costume collections and conservation at ACPTC meetings.
I'm pleased to be with you tonight and happy for an opportunity to discuss an idea that's very important to me—the idea of a professional organization—in particular, the Association of College Professors of Textiles and Clothing.

In my correspondence with many of you this year, I have concluded my letters with a slogan: "The ACPTC is You!" This I wholeheartedly believe. You are vital to the work of ACPTC. But sometimes I think it is important to ask whether or not ACPTC is vital to you. Why belong to a professional organization such as this one? What do you get out of it?

Tonight I want to suggest that the Association of College Professors of Textiles and Clothing is vital to you—that the organization supports you in all your professional endeavors—in your teaching, your research, and your service to your community and your university. As university faculty members, your professional responsibilities are clearly spelled out for you, generally in a faculty handbook, and they undoubtedly read very much like mine:

Texas Tech University is a publicly supported institution which is obligated to provide instruction in higher education, to advance knowledge through scholarship and research, and to provide related services to the community, the state, and the nation.... The responsibilities of the University dictate, to a major extent, the responsibilities of the individual faculty member. The faculty member is properly concerned with the whole process of education and is aware of the responsibilities of the University in a free society. Responsibility is assumed for performing several essential functions: teaching, research, University service, professional service, and community service (1).

Teaching, research, and service—these are the three spheres of activity that make up our professional lives. While we all understand that teaching, research, and service are truly inseparable—that each one enhances the other and no one of these obligations overrides the importance and value of any other, I would, nevertheless, like to look at these components of our professional lives and to extend the evaluation process that we are all so familiar with to the ACPTC. I want to look at the performance of our professional organization in terms of its support of the members in their roles as researchers, as teachers, and as citizens.

First, what kind of support does ACPTC provide professors of textiles and clothing in their obligation to give service?

Our universities often call on us for service when we are asked for our best professional judgments on a variety of matters: we advise students in their course work and in pursuing their professional goals. We help in the formulation of academic policy on university committees. We make recommendations related to curriculum, research needs, academic standards. How does ACPTC help?

Let me remind you of the 1956 work conference at the University of Maryland where college teachers of textiles and clothing from all regions of the United States met to formulate the goals of textiles and clothing programs. They prepared an article for the Journal of Home Economics that articulated our very highest professional ideals. They stated our faith in democratic principles and
our ideas about what truly constitutes an education. They wrote,

All education at the college level should add breadth and depth
to experience in independent thinking. It should open vistas and
lead to an understanding of underlying principles on which deci­sions are made and based. Textiles and Clothing is particularly
fortunate in the richness of experiences from which they may draw
for this kind of understanding. Not only can this area of study
call upon its abundant history, but the specialized body of
knowledge in textiles and clothing is growing constantly with
the increasing research and technological developments. In
addition, principles of economics, sociology, psychology, art,
and the physical, chemical and biological sciences can--and should--
be drawn upon and integrated as a basis for solving problems
in this aspect of our daily life (2).

In short, study in textiles and clothing can contribute to an understanding
of self, to a realization of the speed for change affecting our lives, and to
an ability to make some of the adjustments demanded in a dynamic society. It
can help an individual see the interrelation between one's practices and the
cultural environment and provide a medium through which one can understand some
of the important economic, social, and political forces operating in a nation
and between nations.

The 1961 work conference reaffirmed the belief in this statement of philo­sophy and the committee's eloquent statement has continued to serve as a guide­line for us all in our routine and daily decisions.

The representatives at the 1969 interregional work conference also recog­nized the compelling needs of our society in the face of rapid technological
change and the obligation of textiles and clothing specialists to look forward,
to anticipate change, to adapt to constantly changing situations and conditions.
So, as we grapple with the details of curriculum design or the implementation
of internship programs, our colleagues remind us of the constant need to look
to the future, to remain flexible in the face of change. As the 1961 committee
put it,

Perhaps the keynote for college teachers of textiles and
clothing for the next ten years is to be alert to developments
in the social and economic structure of our country and
to gear continuously the contribution made by the area of
textiles and clothing to the constantly changing conditions (3).

Now, 20 years later their vision remains a true one. Change is almost the
only constant in our society. Such committees speak for all of us--working
together as a group of professionals, concerned about standards and ideals,
committed to service.

Indeed, textiles and clothing professionals have a strong tradition of
service--beginning at least as far back as the First World War. In 1917,
only one year after AHEA created the first standing committee on textiles,
textiles and clothing teachers were called upon to assist the Red Cross in
their war efforts and, in fact, it was our willingness to serve our country
and the recognition of our common professional concerns--of everything the
word "professional" stands for--that led to our coming together as a group and
ultimately to the formation of ACPTC.

In 1938 when Miss Beulah Coon of the Office of Education first organized
textiles and clothing teachers, the United States was beginning to show
genuine signs of economic recovery and this nation's people were becoming aware
of the profound change that the Great Depression had brought about. Dr. Ruth Hovemale described the social and economic change that led to the convening of the first conference of the College Teachers of Textiles and Clothing:

Every area of college education needed to be re-examined to determine what was important and what could be discarded. Numerous efforts were made to re-examine their offerings by home economists in colleges and universities...The textiles and clothing conferences were a part of the effort to reconsider college curricula in the light of the changing situation...(4).

So began the series of conferences that ultimately became ACPTC. In 1944, the idea for an association was refined by Beulah Coon, and she, with Dr. Johnnie Christian, formed the Association of College Teachers of Textiles and Clothing.

In the intervening years, members of ACPTC have continued to devote their time and expertise to service. They have lobbied for consumer interests in establishing textile standards, lobbied to improve working conditions. Members of ACPTC have served on the Springs Mills Advisory Panel on consumer research and on committees of the American Society for Testing Materials, interpreting for business and industry the needs and habits of the American consumer.

The fact that we give service attests to our concern as an organization for our profession. The fact that we are asked to serve is evidence of the public's recognition of our professional commitment.

But whatever may be the form of our service--from our individual contributions to the contributions we make as an organization--we undoubtedly all believe that everything we do springs from and centers around our teaching. For it is in the classroom and the daily contact with students that we experience the highs that keep us going. And it is also undoubtedly in the area of teaching that we can most clearly see the benefits of belonging to an organization like ACPTC. Our meetings help us become stronger, better teachers. The informal meetings, structured conference sessions, ACPTC-sponsored workshops, and special interest groups give us an opportunity to test our ideas; exchange ideas and teaching strategies with others; keep in touch with change, trends, and issues; establish professional contacts; and add to our basic fund of knowledge. And here we share our goals and standards of excellence in teaching.

In this, too, we are part of a tradition—a tradition of insistence on quality instruction. Helen Pundt notes in the AHEA history that in the early twenties, textiles and clothing teachers called for "active and appreciative interest in textile education so that it may properly attain to [a] high standard of excellence (5)."

In addition, textiles and clothing educators strive to provide the finest educational experiences for students through quality instruction, internships, and by developing effective teaching strategies and materials. The ACPTC Committee on Professional Development and New Careers reports on the directions of textiles and clothing occupations so that our teaching may be tuned to rapid technical and economic change.

ACPTC supports teaching not only through conferences and committee work, but through publications such as the newsletter, the published conference proceedings, and the forthcoming research journal. ACPTC supports graduate study; in fact, the Central Region awarded the first ACPTC doctoral fellowship in 1980, and the organization will continue this support.

Just as we have a strong tradition of service and of striving for excellence in teaching, so we also have a strong tradition of commitment to research.

The first fellowships offered by the Textiles Section of AHEA in the late twenties were designed to encourage research. One criterion was that the reci-
pient be involved in research under the direction of a university or college staff member who had made contributions in the field of textile research.

Over the years we have maintained our original interest and concern for research that meets high standards. The impetus for the research journal has grown out of this original concern. The publication committee, consisting of Joann Boles as chair, Judy Flynn, Nancy Owens, and Martha Jenkins, who is the representative from this region, outlined the purpose and objectives of the ACPTC journal. Obviously, the main purpose is to publish research. The other stated purposes are to--

- strengthen the research base;
- facilitate scholarly interchange;
- demonstrate the interdisciplinary nature of textiles and clothing;
- inspire further research in textiles and clothing.

Because it will be a refereed journal, the research reported will satisfy the standards of our profession, standards that grow out of our concern for excellence, social relevance, and rigorous scholarship.

The journal is our newest, and, at present, our most spectacular effort at supporting and encouraging research. In addition, we support committees to identify research needs and disseminate their findings. We report ongoing research projects in the newsletter, at conferences, and in the proceedings. ACPTC recognizes its responsibility to encourage and facilitate research.

We have a responsibility to set standards for research reports, for research programs, and for training graduate students in research. We value research programs. Again and again our colleagues have called for a commitment on the part of textiles and clothing faculty to research, for insisting that our students have a solid core of root disciplines in their course work, and that they learn sound methodology—that our universities design thoughtful research programs in textiles and clothing.

The juried art exhibit, proposed for the 1982 convention in Minneapolis, has as its objective very much the same goal as the research journal—to stimulate the questing mind, to celebrate the creativity of our artists and craftsmen.

While all the things I have suggested are benefits to you as members of ACPTC and are important and valuable, these services are not the essential function of ACPTC.

To appreciate the essential function, we must take, to quote Marjorie East in Home Economics—Past, Present, and Future, "the broader view." East says, "The essential role of a professional organization is to do what no member can do alone, act as the major multiplier of power for the group." Let me give you an example of a project we are undertaking as a group on which, as individuals working alone, we would have little impact.

In January 1981, the United States Department of Agriculture published A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education. Their purpose, they wrote, "is to propose new, national initiatives in research, extension, and higher education to help families handle major problems facing them today." This committee made proposals for future work that will, they say, "influence national goals for family well-being measurably within 5-10 years." The work of this committee will have a major influence on educational and research programs and funding in universities for some years to come. They identified four major thrusts:

1. Family Economic Stability and Security
2. Energy and Environment
3. Food, Nutrition, and Health
4. Family Strengths and Social Environment

And while there are many places that textiles and clothing studies "fit in," there has been no particular accommodation for textiles and clothing. The omission of textiles and clothing studies in the New Initiatives Plan could have a depressing effect on textiles and clothing programs. At any rate, the implications are disturbing for the members of ACPTC.

But because we are organized, we have a framework for confronting this lack of visibility for textiles and clothing studies and the response of the leadership, particularly of the Futures Committee was immediate. The ACPTC Futures Committee is the committee charged with the responsibility for formulating "plans to enable Textiles and Clothing to become a more viable area in Home Economics in the future." They conferred and recommended that an ad hoc committee prepare a positive response to the plan, identifying how textiles and clothing programs might fit into the New Initiative Plan. In addition, the committee recommended that workshops be organized to propose a new direction for textiles and clothing programs in colleges and universities.

We have already received reactions to our objections and current position on the New Initiatives Plan. We are heard because we are many voices speaking as one. ACPTC has earned respect as a professional organization because we do speak for many; because we have established our credibility with our traditional concern for standards of excellence in teaching, research, and service; and because we use our influence thoughtfully and carefully.

This essential function is a political function. We have always been and will always be in the midst of political and social change. It is the nature of our discipline--textiles and clothing studies are intimately bound up with the stuff of change in our society.

Furthermore, we are under an obligation to speak out for a constituency coping with change. We must speak for the university, our colleagues, our students, our communities, the consumer.

We are coming of age in an economic period fully as turbulent as the age we were born into--so that now more than ever our constituents need our voices, our support--your voice, your support. ACPTC is you!

References:

ACPTC: REGIONAL/NATIONAL PERSPECTIVES

Lois E. Dickey, ACPTC National President
The Ohio State University

It seems appropriate to take a look at ACPTC from regional and national perspectives at this time, October 1981. Just 10 years ago, October 1971, at the fourth National Conference in Charlotte, Virginia, the announcement was made the the three regional organizations of College Teachers of Textiles and Clothing had voted to affiliate to form the national Association of College Professors of Textiles and Clothing--ACPTC.

In considering an approach for this presentation, the term "perspectives" kept coming to mind--my ideas and viewpoint regarding the important relationship between the regional and national ACPTC. My approach is based on three perspectives--historical, our past; contemporary, the recent past and present; and the future. The underlying theme or unifying characteristic of the organization that I want to emphasize is synergy--the combined action or cooperation of the groups. By working together and through cooperative endeavors, three separate groups have become one national organization while maintaining the autonomy of the three regional organizations.

HISTORICALLY, ACPTC has its roots in the first half of the twentieth century. The late Ruth Hovermale recorded our history and it appears in the 1968 Proceedings. Marjory Joseph, past president of ACPTC, has recently rewritten the history and background of ACPTC to bring it up-to-date. They noted that the first 40 years of this century was the period of considerable social, economic, political, and technological change. It was also a period in which home economics programs in colleges and universities were expanding and becoming firmly established. At the same time, subject-matter areas such as textiles and clothing also were developing. Much effort and time were put into examining and reexamining what should be included in college education.

In 1938, Beulah Coon, of the U.S. Office of Education, sent a directive that stated, "I hope that in the near future it will be possible to call together a few rather young, progressive clothing and textiles teachers to think about the college program of clothing and textiles ...(1)."

In 1944, two conferences were held for instructors of textiles and clothing--representatives from the Central Region met in Chicago in May, and the Eastern Region met in New York City in November. Regional meetings have been held every year since 1944 except for years of national meetings. The Western Region had its first meeting in 1947 at Corvallis, Oregon, and held meetings biennially until 1958; meetings have been held annually since then.

Attendance at the early meetings was restricted to the larger state universities and land-grant institutions. Over the years, the restriction was removed. A connection with the U.S. Office of Education was maintained until 1966; a representative met with each of the regional groups and served in an advisory capacity.

In 1954, 10 years after the first meeting of College Teachers of Textiles and Clothing, representatives from Central and Eastern Regions began discussions regarding a national meeting. The first national meeting was held in Madison, Wisconsin in 1959, preceding the AHEA meeting that year. A total of 117 persons attended the meeting. At the business meeting, it was decided that more national meetings should be planned, and to carry out the plans, a National Steering Committee was chosen from the three regional groups. Three members from each region, elected by members attending regional meetings, met together in 1960.
The National Steering Committee continued to function throughout the 1960s—the second and third national meetings were planned and held in 1964 and 1968, and a series of seminars was held in 1965 and 1966. A framework for the organization of the National Steering Committee was developed to facilitate continuity and communication.

At the 1968 National Meeting of College Teachers of Textiles and Clothing, the National Steering Committee was asked to determine the best way to affiliate with AHEA, the amount of dues necessary to effectively operate the association, the most efficient method to reproduce and distribute the Proceedings, and procedures or suggestions for permanent housing of association files. A proposal for a national organization was drafted and presented to regional organizations for discussion and input, then presented by ballot to members. The national organization of ACPTC was officially approved in 1971.

In contrast with some organizations, which begin as a national organization and then form subunits to bring the organization closer to the members as it grows, ACPTC started as three regional groups and then joined together as one professional organization to carry out its goals and objectives. At the same time, the regional organizations continue to be clearly defined—ACPTC-CR, ACPTC-ER, ACPTC-WR. Understanding our past helps to understand the present.

The CONTEMPORARY PERSPECTIVE of ACPTC relates to the period of 1971-1981. Keck, in writing about synergy, noted that "the principle of synergy is that reality is more than a sum of its parts (2)." Applying this definition to the regional/national perspective for ACPTC, the bringing together of three quite distinct groups to form a national organization was neither easy nor simple even though our professional goals were the same, or very similar. There was and continues to be much discussion, much give-and-take. To maintain regional autonomy and to develop national leadership and identity continues to be a challenge, but a challenge that is consciously being worked on by all those involved.

In speaking of synergy, Keck noted that "because of our preoccupation with specialization and compartmentalism we are not very familiar with the word or concept of synergy (2)." Our involvement at the regional level could lead to "compartmentalism" or separateness. However, I believe that ACPTC members—both at the individual and regional levels—have a synergistic view of the national organization of ACPTC, and see our strength as coming from working together for our professional organization.

A national organization has strengths that individual regional organizations may not have. A national organization can facilitate and provide ways for members to keep in touch with other professionals and with professional activities across the country. Thus, through the Newsletter (since 1978) and the Combined Proceedings (since 1975), we gain information about activities, research, and education for all three regions. As an aside, and as a senior member of ACPTC, my personal file of Proceedings from Central Region is fairly complete from the mid-1950s—but I have only a few Proceedings from Eastern and Western Regions for it was difficult to know where to order them. Also, one paid full price for Proceedings from another region. Now, we have the proceedings for all three regions in one publication, the Combined Proceedings.

Another aspect of a national organization is that a representative may be easily identified to speak for the group for a specific situation. For instance, two members of the Association of Textile Manufacturers Institute met with me recently. I spoke to them as a representative of ACPTC to acquaint them with textiles and clothing programs in higher education—and I hope, help them understand something of university programs and our graduates.
A third aspect of a viable national organization is the ability to respond to individual member's concerns and questions. I receive copies of all correspondence to members and nonmembers from the executive director, Loy Walton. The amount and extent of that correspondence is far more than I ever imagined—and I have served in various offices of both the College Teachers of Textiles and Clothing and ACPTC. An organization must be responsive to individual members; this is facilitated by our executive director as well as the officers and committee chairpersons of both the national and regional organizations. Communication is vital.

A fourth aspect is that a national organization can promote the organization. This is done through various means—such as unifying logo, promotional activities, and publication of research. One recent development is the listing of the Proceedings in the Index to Social Sciences and Humanities Proceedings; future plans include listing in the Index to Scientific and Technical Proceedings. Thus, professionals in other fields will have access to information about our activities and research. But, we also should consider other ways that our research and publications can be available to both those in our field as well as other fields of study. A clothing and textiles journal is approaching reality—an exciting step forward!

A fifth aspect of a strong national organization, and I place this last for it is part of the other four points I have mentioned, is the commitment and involvement of individual members, committee members, committee chairpersons, and officers. No organization can succeed without that component—commitment. As President of ACPTC this past year, I have been impressed, and very appreciative, of this component.

As for the FUTURE PERSPECTIVE for ACPTC, I feel positive and look forward to the events that will be occurring and the leadership that the "young, progressive clothing and textile teachers and researchers" will be providing.

The Summer 1981 issue of National Forum: Phi Kappa Phi Journal focused on "Perspectives on the Future." Many challenging viewpoints were presented. The editor stated some of the reasons for studying the future in his editorial, "Futuristic Frameworks." White noted that one "reason for studying the future is that it gives us a basis for action in the present." He referred to a statement by Victor Ferkiss, who pointed out that "It is impossible to act in the present at any level without some image of the future."

The study of the future is important for a professional organization—just as it is to an academic unit, a business organization, or to an individual. The National Executive Board appointed a Futures Committee this year, composed of a member from each region plus a chairperson, to give some imaginative thought to the future of ACPTC and to propose some plans. A big job— but one that was taken on with commitment. Through correspondence and telephone conferences, one question was addressed—that is, to inform members of a document for the field of home economics, referred to as the New Initiatives—A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education (4) and to suggest ways that textiles and clothing contributes to the identified four "thrusts" for future programs and research. I hope you received the letter from Mary Don Peterson, have read the committee's comments and suggestions of ways that textiles and clothing contributes to the field of home economics, and that you are discussing the ideas with your colleagues.

The Futures Committee also is considering ways to develop some futuristic goals—to help us in looking forward and planning for our professional area, textiles and clothing. White noted that "each of us individually is already an
amateur futurist, but we need to become more professionally adept at it (3)."

What is your vision of the future? Where do you see textiles and clothing in 10 years? What changes do you envision? What can we, as professionals, do to prepare for these changes? Historically the organization has given leadership in looking ahead—whether as the College Teachers of Textiles and Clothing or as the Association of College Professors of Textiles and Clothing. It takes involvement, enthusiasm, commitment, and a belief in what we are and where we want to go.

My challenge tonight to each of you is—to "think in the future tense" and provide the leadership for our professional organization, ACPTC, TO MORE FORWARD!

References:


COMMUNICATING RESEARCH: EFFECTIVE VISUAL REPORTING

DeLoris Clouse
Extension Communications Specialist
Educational Media/Communications Training
University of Nebraska-Lincoln

Communicating research. Effective visual reporting. Statements...words...what do they mean? I'll wager that there are as many interpretations as there are people in this audience. Because each viewer has had different experiences, interpretations can differ. That is one reason why speakers use visual aids. They help clarify and emphasize key concepts and points in verbal messages. They also enhance a presentation. Listening, looking, comprehending, interpreting, and responding—all are factors that play a part in the communication process. But there are instances when these factors are disrupted in some way so that the communication process breaks down.

The purpose of my presentation today is to help you become more aware of some of these disruptive factors. I will address myself especially to visuals you are likely to use when you present the results of your research to an audience.

Most of you probably have presented research reports. Many of you also have attended reporting sessions where the visuals used by speakers have been poorly prepared and ineffective. No doubt you as a viewer were unable to read the words projected on the screen. The letters were too small and not legible. You prob-
ably have experienced situations where the visual aids were too complex—illustra-
tions contained too much detail, and there were too many words. Perhaps the
visuals were left on the screen too long, that is long after the point had been
made. Or, perhaps the visuals were removed too quickly. These are some of the
disruptive factors that occur. As a viewer you probably became frustrated or
bored because the speaker was not communicating effectively.

Let's analyze why visuals are sometimes ineffective. The purpose of oral
research reporting is not the same nor does it replace the purpose of a research
publication. When speakers do not see that the objectives are different, they
encounter problems. Visuals designed for a printed publication may not work
for an oral presentation.

Usually in an oral presentation the objective is to help the audience
perceive an overall concept, not the details of the concept. A statement of
the research problem, the results of the study, and the implications may be all
that one can communicate in a short reporting session. Visual aids help em-
phasize and reinforce the speaker's main points. In printed publications,
tables and figures supplement and aid the written text. The reader has time to
examine and reexamine the text and graphics. But this graphic information must
be redesigned for effective visual projection. The pace of oral and visual
presentations moves right along; it is not possible for viewers to reexamine
what the speaker has said or shown. The viewer must see, hear, and comprehend
the message in a short period of time. Therefore, visual aids should be de-
signed with simplicity and relevance. The following examples will illustrate
how one can convert data in printed form to a more simplified projected form.

The first version shows a table that appeared in a publication. The author
intended to discuss only the significant data so eliminated other data. She
decided to use larger and bolder type because the size and thickness of the
letters and numbers made the information easier to read when it was projected.
She also decided on another effective technique, a building up of the data.
Use of this technique allows the audience to concentrate on just one segment at
a time; they do not read ahead.

### Publication

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#### Projected Visual Aid

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Another example of limiting information on visuals is shown in the following research study. In order to establish validity for the Person Preference Test, sixteen stimulus figures were selected to represent four distinct types of clothing and hair styles worn by 8-year-old girls. While it might be appropriate to show all sixteen representations in the research paper, it is better to show only four as an example of the methodology.

When possible, prepare graphs from information printed in table form. Tables are often difficult to read because they have so much information. Graphs visually convey data, making it easier to grasp relationships, trends, percentages, and results. Let us look at some typical visual forms.

**Bar Graphs:** Bar graphs represent simple and multiple comparisons. They also can show a whole and a relationship of its parts.

![Bar Graph](image)

Bar Graphs:

Bar graphs represent simple and multiple comparisons.

**Circle or Pie Charts:** The circle or pie chart is recommended when you wish to show percentages of a whole.

![Circle Chart](image)

Circle or Pie Charts:

The circle or pie chart is recommended when you wish to show percentages of a whole.
**Line Graphs:** When you wish to show the relationship of two or more variables over a period of time, the line graph is the most appropriate to use. This kind of graph is also superior for indicating trends.

![Line Graph](image)

Diagrams and Illustrations: In addition to the three basic or more commonly used graphs, simple diagrams and illustrations are also effective in helping the viewer grasp a concept in a short period of time.

![Diagram](image)

Photography: Photography plays an important role in the preparation of visual support for research reporting. Simple charts, graphs, diagrams, and illustrations can be prepared and shot into slides. Appropriate lettering and the use of color in slides helps to enhance appeal and message retention. Through the medium of photography, one can capture expressions, actions, and gestures that are all part of nonverbal communication. Content of color slides can create moods, stimulate emotions, or portray abstract concepts. Photography
brings the viewer into a situation or study. A series of slides can document experiments, show step-by-step procedures, visualize changes in a process—all of which reinforce the spoken word.

If you decide to take pictures, here are some hints to keep in mind:

1. Eliminate clutter in the background; clutter distracts from the center of interest.
2. When you want a slide to depict a specific object, take a close-up of that object. A common mistake is speaking about one thing while showing something else.
3. When showing a step-by-step procedure, first take a long shot of the location, then a medium shot, followed by close-up shots of the actual steps.
4. If you have existing slides that have cluttered backgrounds, consider taking the slide to a commercial photographer and having it "cropped."

The simplicity and appropriateness of visual material applies to both slides and overhead transparencies. Both should be designed to show quickly and accurately pertinent information that is paced with the spoken words.

Preparation of visual material. How the visual materials are prepared for projection is another important consideration.

A common problem I have observed when speakers use slides or overhead transparencies is word legibility. Legibility is affected by the size and style of letters. There is a range of type sizes. My examples show words set in 12 pt. typewriter up to 48 pt. type. I recommend using 24 pt. type or larger. The larger the type size, of course, the fewer words you can have on a slide or transparency. That is all right, because it will force you to limit the number of words.

In addition to size, the thickness of letters is important for word legibility. The thicker or bolder the letter, the more legible it is when projected. Legibility differs with the type style as well, whether the letter is a serif or sans serif. The sans serif letter is best to use when designing words for slides and overhead transparencies. It is more legible and easier to read from a distance. If you wish to use a serif style letter, use it for short words...those you want to emphasize.

Serif: short lines extending from the stroke of the letter

Serif style: Serif style/Italic

Sans Serif: without short lines

Sans Serif style: Sans Serif/Italic

Keep size and style in mind when preparing type for projection. These factors as well as the principles of brevity and simplicity apply to the preparation of both slides and overhead transparencies.

If you have the services of media or audiovisual specialists, I suggest you elicit their help in the preparation of visual materials. If you do not have
these resources, the following suggestions will help you prepare your own visual aids.

There are many art materials and techniques that can be used to prepare slides and overhead transparencies. College bookstores and local art and craft stores usually have a variety of these materials. I recommend that you acquaint yourselves with the materials and services that are readily available. New art materials and tools come on the market every day. It is difficult to keep up, but I will show general types of materials available now.

There are different sizes, styles, and colors of pre-cut adhesive and plain letters and numbers. They are easy to use, but they can only be used once. For more versatility in making brief title slides, you can use plastic or wooden three-dimensional letters. These letters and numbers can be used over again with different backgrounds. There are also a number of sizes and styles of rub-on letters.

Letters and numbers can be rubbed onto colored poster board or colored paper for graphs or illustrations, then photographed into slides. If you have access to a typesetting system, you may have your type set. However, the rub-on letters and three-dimensional letters look best on a colored background preparation.

Both the rub-on and the typeset lettering, black letters on a white background, will work for the kodalith process. A black image on a white background, when photographed with black and white ortho film, will produce a kodalith negative of a black background and a clear image.

By using a light source such as a light table, photograph a background color. Instead of advancing the film, adjust the film back to the previous exposure, then photograph the kodelith slide. This creates a double exposure on one film frame. The result is a reverse image on a colored background.

You also can add color to a clear image of type and illustration on a kodalith negative slide. The kodalith process also is used to superimpose type on existing slides.

Brightly colored paper, poster board, and adhesive tapes are among the art materials available to make visuals for photographing color slides. Tools such as metal rulers with cork backing and ink pens can aid you in preparing professional-looking visuals. A cork backing keeps the ruler from slipping when you draw lines with an ink pen.

After drawing the axis for a graph, you can apply the rub-on numbers and letters. Various companies make color adhesive tapes in 1/32" to 1" widths for use in bar graphs. The thinner tapes also are useful in preparing line graphs. Colored paper is an alternative to tape when you prepare bar graphs and divisions of circle graphs. Art principles to keep in mind when you prepare visuals for slides are simplicity, boldness, and contrast. Cut-outs of clip art can be mounted on contrasting color backgrounds. You also can outline the cut-out in India ink to achieve a bolder contrast. Cut-out clip art can be used for preparation of slides and also for overhead transparencies. The master art for overhead transparencies is prepared by using type and illustrations as a black image on a white background. This sheet is then used to make the transparency. Transparency sheets are available in clear, tinted, or colored sheets. Other color materials can be added to the overhead transparency. This is done through the use of transparent-color pens, tapes, and adhesive sheets designed specifically for overhead transparencies. There are different brands of materials on the market. Usually materials are available through stores that sell art and school supplies and projection equipment.

By mounting overhead transparencies in frames you can make notations on the frame. Also overlay transparencies can be hinged on the sides of the frame for
building information step-by-step. Keep in mind as you prepare to report on your research results that awareness and emphasis of the study may be all you can communicate in a short period of time. With the support of simple and relevant visuals, the communication effort will be more effective.

Remember these tips as you plan:
1. Keep words and illustrations legible through size, style, and boldness.
2. Avoid too much information and complexity on one visual. Simplify concepts, illustrations, and words.
3. Use more visuals in building points of information. Visualize key words and ideas, as the speaker you fill in the oral message.
4. Keep a smooth pace of oral messages and relevant visuals. Do not remove visuals too fast, or leave one visual on the screen too long after your point is made.
5. Learn to feel comfortable in operating projection equipment and using visual aids. The purpose of projection is to enlarge material for more viewers to see. Room and equipment arrangement are important so that viewers can easily see the visual on the screen.
6. Consider the types of visual methods and how you plan to use them. Slides can easily be prepared to convey abstract ideas and realism. They are easy to duplicate and store. Overhead transparencies allow the speaker to write and add information on the visual when speaking. Transparencies are quick and easy to prepare.
7. All slides are placed upside down in the tray. It is helpful to number your slides in the upper right hand corner of each upside down slide. When you place the slides in the tray, the number helps to position the slides accurately. Slides also are placed with the emulsion (dull) side toward the screen and away from you. In many cases the mounted slide has printing on one side, and usually that is the emulsion side.

I hope I have made you more aware of the disruptive factors that block the communication process. I also hope you are encouraged to develop visual materials that are more appropriate for research reporting.
Keep words and illustrations legible through size, style and boldness.

Avoid too much information and complexity on one visual. Simplify concepts, illustrations, and words.

Don't Compete...

...Don't let visual aids do all the work!

Use more visuals in building points of information. Visualize key words and ideas.

Keep a smooth pace of the oral messages and relevant visual aids. Do not remove visuals too fast, or leave one visual on the screen too long after your point is made.
QUALITY RESEARCH WITH LIMITED FUNDING

Edward Lakner
Senior Project Coordinator
Survey Research Laboratory
University of Illinois

I was asked to speak to you on the subject of "Quality Research with Limited Funding." This is a notion that is uppermost in everybody's mind these days in research units of our colleges and universities, and especially in those units that do research in the social sciences. I am referring, of course, to Round One of the federal budget cuts--just ended--and a slowdown in the funding of research projects that is already beginning to be felt and reflected in a dwindling number of requests for research proposals from federal agencies. For the moment at least, the future funding situation looks bleak indeed. For the first time in 16 years, and after more than 400 social surveys and survey-related projects, our research laboratory sees no work on the horizon. Decisions on research proposals submitted to federal agencies are being delayed. Work already in progress is being threatened by reduced funding or with outright cancellation as federal agencies shuffle priorities and reallocate funding in response to anticipated budget cuts. To what extent this slowdown represents a real change in policy or is only a temporary condition resulting from uncertainty about the magnitude of cuts is not clear. Congress has still to allocate a reduced federal budget to the different government agencies, with the result that much research funding will remain on hold until the dust settles. Regardless of how the federal budget is distributed, however, it is very clear that some of the cuts proposed by the Administration are being targeted specifically at social science research.

Let's examine in detail one small but important division of the National Science Foundation, the division of Social and Economic Sciences. Under the Administration's plan, SES funds will drop from $31 to $24 to $10 million from fiscal year 1980 to 1981 to 1982. Without even allowing for inflation, this gives a reduction of 68 percent in two years. Similar deep cuts have been planned for NSF's Behavioral Sciences program. Also under attack, although in not so specific a fashion, is social research in the Alcohol, Drug Abuse, and Mental Health Administration at the National Institute of Mental Health, which has been all but removed from the NIMH budget.

The broad themes of the Administration's science budget were explained in a recent colloquium of the American Association for the Advancement of Science by the chairman of the Council of Economic Advisors and OMB officials. No one could say exactly why the social science cuts at NSF were made--and at whose direction. But the judgment was offered that these programs were of lower priority than continued funding for basic research in the physical sciences. To quote the associate director of the Office of Management and Budget "...the Administration is continuing to support basic research particularly in the natural sciences and engineering because such research results in the advancement of science that underlies long-term economic growth."

Add to this President Reagan's announcement last month that the fiscal year 1982 budget for most government agencies was to be reduced a further 12 percent and you can almost see the waves of apprehension rolling over social science departments and research centers of the nation's colleges and universities.

How will all this affect research in textiles and clothing, if at all? I
will not pretend to be able to answer this question, but it might be worthwhile

to look at some of the types of research being done, based upon a tally of the
NCR-65 reports for the last four years. The largest number of research projects
reported are in fact, social science related, 43 percent of the total. Nearly
two-thirds of these social research projects consist of opinion or attitude
surveys. By "surveys," I mean projects that gather information about the
lifestyles, attitudes, or opinions of some defined group of individuals in a
more of less natural setting using a questionnaire, interview or attitude
schedule, or comparable instrument for social measurement.

Examples of the surveys described in the NCR-65 reports included studies
of clothing use and quality of life in urban and rural communities, or use of
protective clothing and fabric preferences among certified pesticide users;
or indoor energy conservation practices and their relationship to the use of tex­
tiles and clothing. The remainder of the social science research listed in the
NCR-65 reports is composed almost entirely of experiments with human subjects--
the controlled administration of various levels of treatment or stimulus to
experimental and control groups of subjects, in the familiar sense. Examples
of this type of research included studies of the effect of clothing and hair
length on perception of personal characteristics in an interview situation;
or interpersonal attraction as a function of similarity in attitudes and dress;
or the relationship between physical hand properties and subjective prefer­
ences for fabrics.

After social science, the second major category of research project in the
NCR-65 reports is fabric testing and textiles research, about 30 percent of the
total. You are probably all familiar with what is involved in fabric testing,
how physical properties or permanence change in some very hostile chemical
and physical environments.

A third major research category, tallied from the NCR-65 reports, consists
of projects of qualitative or investigative nature, about 20 percent of the
projects reported. Included here are topics in historic clothing and textiles,
such as analysis of the dress and accessories of American Indians, pioneers, and
other historic groups; development of bibliographies for clothing research and
history of apparel; and studies of textile manufacture in primitive cultures.

Of the total academic research in textiles and clothing, as sampled by the
NCR-65 reports, a substantial proportion (almost one half) is in fact, social
science research. In terms of dollars spent, the proportion may be even larger
than this owing to the rather expensive nature of surveys.

No one can predict at this point just what effects the federal cuts will
have, but I have to imagine that a lot of the academic research in textiles and
clothing is dependent, through one avenue or another, on federal funding. My
guess, and that of most of my colleagues, is that after all the dust settles,
there will still be plenty of funding available--but less than formerly, and ad­
ministered on a more selective basis. We hope that the cuts for social and
behavioral sciences at NSF were made because these programs were highly visible,
and that such cuts do no belie any larger attempt by the Administration directed
at the rest of the federal government to wipe out social research. Even from
the most optimistic perspective, however, we should be prepared to face tougher
competition in the days ahead for available federal funds.

And this brings us to the subject of academic research and its marketability.
Most of us would agree, I think, that an academic research project is worth­
while if it provides answers to important questions or makes a valuable con­
tribution to theory; if it yields findings that will stimulate further research
that can build upon the results obtained; and to perhaps a somewhat lesser ex­
tent, if the findings will provide accurate guidelines for decision making in
both industry and government. In the present situation, we may well consider whether it is not the last of these alternatives that is the most important. I would submit that, in the foreseeable future, research that has practical applications in the social, economic, and marketing environments is more likely to be funded than testing hypotheses about abstract and very specialized concepts, especially by government agencies. It is a harsh prospect that academic researchers will have to ask themselves, "Will anyone do anything differently on the basis of the results of this study?"

What will it take in the foreseeable future to insure that a proposed research project has some chance of being financed? Much seems to depend on "reversing the roles," or the ability to put one's self into a funding agency's shoes. Instead of thinking--as most of us do--in terms of how an agency can satisfy our funding needs, we will have to think of how we can satisfy the funding agency's needs. In academia, we are on the verge of discovering the new Golden Rule of Arts and Sciences: "Whoever has the gold makes the rules." The funding agency dispenses its finite dollars to meet its own well-defined objectives. The closer you can fit into its grant-making criteria (without compromising your integrity), the greater the possibility of your being funded.

This is not to say, of course, that research having practical application cannot also contribute some basic scientific knowledge of lasting value. I would submit, however, that both research objectives--taken to extremes--can lead to waste. One definitely wants to avoid a situation in which research is conducted under pressure of current issues or problems, where the researcher seems to become the handmaiden of the particular views of the sponsor. On the other hand, there are examples of research where the findings are of little relevance because the problem does not have any importance, or because the design tests some very particular theory while ignoring other possibilities. Through a process of negotiation and fitting between researchers and the funding source, research on real problems can be justified in terms of some social or practical benefits and still contribute to basic knowledge or even to the development of improved methods.

In light of the scenario of impoverished funding just presented, I would like to suggest some ways in which to broaden the base of funding possibilities. Assuming that the federal government will continue to fund research efforts, in addition to those in natural science and engineering, I can tell you that the most single valuable source of information on government grants is the Catalog of Federal Domestic Assistance. The catalog lists and describes practically all federal programs and activities that socially or economically aid the public. Its chief function is to help grant-seekers identify and obtain information on the types and sources of available federal assistance. Over a thousand domestic programs are covered, ranging alphabetically from "academic computing services" to "zoo display animals" as well as many forms of aid including grants, loans, scholarships, training, technical assistance, statistical data, equipment, and facilities.

For those looking for research contracts, the principal source of information is a U.S. Department of Commerce publication called the Commerce Business Daily. The CBD is the official vehicle for notifying the public of virtually everything the U.S. government plans to buy--thus giving everyone, at least in theory, an equal chance to submit a bid. Announced bidding opportunities include those for the procurement of equipment, services, and material or research through contracts. By law, almost all Requests for Proposals of $5,000 or more and awarded contracts exceeding $25,000 must be published in Commerce Business Daily.
Both of these publications, the Catalog of Federal Domestic Assistance and the Commerce Business Daily may be obtained from the U.S. Government Printing Office, but copies also are available at most large public and college libraries.

Up to now, we have been talking about invited proposals—a source of research funds that specifies an area of research or a set of problems and solicits researchers to design appropriate studies.

Another avenue of approach to research funding lies in the unsolicited proposal. This is just the reverse of the usual case—instead of waiting for the appearance of an interesting request or proposal to respond to, you take your case directly to the funding agency. We have found this to be a successful means of funding research proposals. First, you find out the name of the appropriate funding program and the officer in charge. There are a number of ways to do this, including looking in the "Information Contacts" sections of the Catalog of Domestic Federal Assistance, or by simply calling the central or regional office of the appropriate agency. Having learned the funding program official's name, your next step is to telephone (usually your best bet) or write this official. Briefly describe the project and ask whether it correlates with the funding program's general objectives. If it does, ask for an exploratory meeting, or develop a written correspondence and telephone communication relationship with the officer. You also may be asked to submit a brief concept paper, no longer than 10 double-spaced pages, describing the research objectives, methods of data collection, and the probable range of costs. In our experience, evaluators are only too happy to review the merits of an unsolicited concept paper and to recommend whether or not it should be worked into a full proposal. In addition to methodological and budgetary considerations, key questions that will be asked during the review are "How significant is the need that will be satisfied by the project?" "Is the timing right for solving the problem?" "Does the project duplicate or overlap other programs?" "Are there options other than the ones that the researcher is proposing?"

The consensus among our staff of principal investigators at Survey Research Laboratory is that unsolicited proposals have a better chance of being funded than solicited ones, such as those announced in the Commerce Business Daily. At least this has been the case up to now. There are a number of reasons. One is that the work requested in the CBD is often an extension into the coming fiscal year of a current contract awarded to another bidder. This happens frequently in the case of long-term research contracts that are renewed from year to year (for example, an annual survey of some special group, say college freshmen) where by law, the need for services must be announced as a request for proposal in the Commerce Business Daily. We refer to such RFP's as being "wired," so look out for any tell-tale signs of replication or "continuation" of previous research. The announcements are usually very clear on this.

A second reason favoring unsolicited proposals is a strong feeling I get from time to time—that unless your organization is uniquely qualified for the job, evaluators of invited proposals tend to favor ideas, institutions, and people that are familiar entities, namely, very well-known or previously successful bidders. This could work for you as well as against you—and again, how often this happens is only an educated guess. But clearly there is no harm in developing a written correspondence and telephone communication relationship with a funding program officer, or even being first to propose a research project that has real merit in the eyes of the funding agency. And I would guess this is as true for funding sources in private industry as it is for agencies of the federal government.
Still another approach to the problem of limited funding is that of cost-sharing, or seeking support from two or more funding agencies that are interested in the research findings. The main tasks are to establish the research needs of the participating agencies, ascertain their common interests, and get the funding officers acquainted. At Survey Research Laboratory, we are actively seeking to promote such a cooperative relationship among Illinois state agencies in Springfield. This is because such an "omnibus survey," as we call it, is possibly the only vehicle available right now for most state agencies to do any kind of polling work because of sharp cutbacks in the Illinois state budget. The savings to each participant can be substantial over paying the entire cost of the survey. And these savings are primarily in the fixed project costs, those that change only very slowly with the amount of data collected—such as supervisory salaries at each stage of the survey operation, accounting, questionnaire printing, and computer programming and analysis. What is more, each of the two or more participants uses the same statistical sample, thereby sharing the cost of what can be an expensive operation, depending upon the particular design of the survey. From both the researcher's point of view and that of the participating agencies, in a climate of tight funding, seeking the cooperation of more than one sponsor may be the only successful means of funding the project and certainly should not be overlooked if all else fails.

Let us shift now from the subject of funding and related issues to a discussion of quality in research and ways of reducing cost. What do we mean by quality in research? I would submit that in one very important sense of the term, "quality" refers to soundness of research design and to insuring its realization in actual practice. Hence, "soundness" means getting the most for the least, maximizing reliability of measures through minimal expenditure of resources. From this point of view, quality and cost are inversely related—higher quality should lower costs in the given area of research endeavor. Such optimization would seem to be more the rule than the exception in the physical sciences. In social science, it is more the exception than the rule.

For example, in fabric testing, using very sensitive instrumentation, you can measure physical changes in a sample synthetic fiber whose chemical composition is known precisely in advance of testing, and whose composition is virtually identical from sample to sample. Under these conditions, only small concentrations of an independent variable may be needed to demonstrate highly significant effects, and only a few experimental replications should be needed to establish the universality of these effects. Optimization is "built in," if you will, to the nature of the experiment. Contrast this with the social sciences. Here the human "fabric" being measured or tested is a conglomerate of fibers consisting of an indefinite variety of types, having different characteristics in different places, which interweave, twist, and shade into each other in an irregular pattern, and are subject to constant change.

How do you obtain reliable measurements of something like this? In the social sciences, the composition will (and typically does) vary from sample to sample. Relatively large variations of the independent variables and/or large samples are needed to detect the presence of real effects or differences, using crude measuring instruments. Here the nature of the research problem offers no inherent framework for the efficient use of resources. Instead, in social science, the level of cost versus the reliability achieved depends almost exclusively on the design and planning decisions made by the researcher. Consequently, a risk always exists that the research will cost more than necessary,
or that the reliability achieved will be lower than would have been the case if the research design had been different.

This is true especially of social surveys, and also of experiments but to a smaller extent. Surveys can involve a lot of time and money and for that reason, good advance planning and design are a must. In comparison to other forms of research, there is tremendous room for optimization in designing a survey— that is, for increasing the reliability of measures while at the same time reducing costs. Since much of textiles and clothing research consists of surveys, and since many of you have engaged in this form of research in the past and will probably continue to do so in the future, it seems appropriate to take some time to probe the subject in some detail, and to discuss the major planning criteria as well as how to reduce survey costs.

First of all, what do we mean by a "survey"? It would be a pleasure to be able to give a straightforward definition of what is meant by "survey," since the term and its associated methods are applied to an extraordinarily wide variety of investigations. These range from Gallup polls to urban planning surveys, market research, textiles and clothing research, and countless investigations sponsored by institutes, universities, and government. As to subject matter, the range is equally wide—all you can honestly say about surveys is that they are concerned with the demographic characteristics, social environment, activities, opinions, and attitudes of some group of people.

In size, these groups may range from the general public (requiring use of standardized formal methods and large representative samples) through more specialized subgroups of the population, to a handful of individuals or families studied intensively—with the possible deliberate sacrifice of quantitative precision for the greater depth and detail obtainable from case studies. In most instances, however, the intention is to draw population inferences, and so, the achievement of representativeness is a matter of major importance. As a consequence, most surveys are large-scale operations, either achieving complete coverage of a specialized group to be studied or selecting samples that are sufficiently large to be statistically representative of the population.

In a climate of scarce funding, of course, the problem is how to do this for minimal expense. I do not hesitate to say that you can do this—first, by using the smallest sample size that will yield results at the desired level of statistical reliability; second, by asking only those questions that are of key interest or importance for the survey topic; and third, by using the least expensive method of data collection consistent with obtaining valid measures and a maximum rate of survey response. These are the major components of the cost of a social survey. Let us talk about each one of these in turn.

First, sample size. How large are the samples that are usually employed? Sample sizes in general population surveys range typically from 500 to 1,500 randomly selected individuals, depending on the range of differences in the population characteristics being measured and the statistical reliability desired in the survey measurements. In surveys of professional groups, however, whose members tend to be more similar to each other than to the population at large, the sample sizes may be as small as 200 to 300 persons. A larger survey sample, of course, means more questionnaires to administer and process than does a smaller sample, and so, to avoid unnecessary expense, it is best to work with a sample that is no larger than needed.

If you advise on sample designs, you know that the first question asked is "How big a sample do I need?" You also know that no accurate answer can be given until the researcher decides how precise the sample results should be and until a good deal of information has been obtained in advance about the
group or population being studied. Here, we wish to inquire about the margin of error acceptable for the survey results, or within what maximum range of the survey sample finding the true figure in the population must lie for the results to be of use to the researcher. To answer this question requires a lot of thought about how and by whom the results are to be used, and how much hinges on the decisions they may determine. When thinking about this, it is well to remember that an overly large sample just costs money. And since money and time are always important considerations in survey operations, the goal should be to arrive at a sample size that will produce results just within the acceptable margin of error. Most survey organizations involved in public polling try to operate within a maximum error range of four percentage points of the true figure, since accuracy greater than this is not demanded for simple cross-sections on most issues. But if the findings are to be used for theory, or further hypotheses, or for social action, an error factor as large as four percentage points may be completely unacceptable, and the researcher may want to specify a smaller range.

The decision on sample size also is governed by the way the survey results will be analyzed so that the researcher must consider, at least in broad terms, the breakdowns to be made in the final tabulations. This is a question of what numbers are needed in each subgroup of the survey sample to detect the smallest size of difference the researcher may wish to measure at a given level of significance. Here it is prudent not to attempt to measure differences in the population that are too small, and certainly no smaller than strictly required by the objectives of the survey. Otherwise, the total sample size and the survey cost may quickly escalate beyond what is needed or practicable.

We also should note that if the real difference is so small that its statistical demonstration requires thousands of cases in each subgroup of the survey sample, one may question whether it has any practical or scientific importance. With unlimited money and time, almost any desired degree of precision can be obtained simply by taking sufficiently large samples. Most researchers, in my opinion, could spend more time thinking about acceptable margins of error and the minimum differences that are worth detecting with their survey samples. There is a tendency to shortchange design and planning and to get into the field with the largest sample affordable simply to increase the likelihood of detecting differences. This is an expensive way to do things, and it is certainly not an optimum approach to survey research, especially when funds are limited.

There is still one other consideration in determining sample size beside the margin of error that can be tolerated, and that is a rough estimate of variability in the population of the characteristics being measured. This is because the more alike people are in regard to the activities, opinions, or attitudes being assessed by the survey questionnaire, the smaller the sample size needed. Effects of homogeneity on sample size can be seen in many facets of everyday life. If you want to test the quality of soup you are making, you taste only a teaspoon or two. Why? Because when the soup is thoroughly stirred, one teaspoonful is enough to detect the right mixture of ingredients. The quality of water in a reservoir is tested by taking a few samples, maybe not more than a few drops from a half-dozen different points. This is because pollutants will disperse widely throughout a body of water and a small sample will accurately reflect their presence. Or again, in a blood test, only a few drops are needed by a medical technician to discover abnormal conditions. These are examples, of course, from the physical world. People are not so much alike as drops of water or blood. If they were, then the world of individuals could be sampled by selecting only a half-dozen persons anywhere. People
are widely different because their experiences are different, and they tend to be anything but thoroughly mixed.

Most sampling statisticians know, however, that people differ less in some characteristics than in others, and that if you can break an otherwise heterogeneous survey population into more homogeneous groups and then select a random sample separately within each group, you can often achieve the needed precision with a much smaller sample than would be required otherwise. This process is called stratification and it figures in the design of many surveys. It simply takes advantage of the fact that people of similar occupations, income levels, age, education level, and geographic regions tend to be similar in their activities, opinions, and attitudes. The idea is to form the strata so that they differ as widely as possible from each other on the characteristic(s) being measured, but so that the population within each stratum is as homogeneous as it can be. Survey results are obtained separately for each stratum and are then recomposed on a weighted basis for the whole sample. The payoff for doing this can be a significant reduction in the overall size of the sample and the cost of the survey. If you are able to reduce the heterogeneity by one-half, you need a sample only one-fourth the original size to achieve the same precision.

So, deciding upon the right sample size requires a lot of background work--laying down the survey objectives precisely and stating exactly what questions it means to cover and the results expected. A good deal of knowledge is required about the survey subject matter, about the population it is to cover, and even about the answers people are likely to give. To do this implies information gathering--talks with experts, a study of the literature, an inexpensive study to scout the field, or even a pilot study. These will enable the investigator to form advance estimates about the size of differences existing between groups and the range of characteristic variation in the survey population (in standard deviation units). On the basis of this information, the researcher can calculate the smallest sample size necessary to achieve the aims of the research. A larger sample than necessary makes the results more precise than intended, but it also inflates the cost of collecting and processing survey data and contributes little to further knowledge.

Let us now turn our attention to the second principal determinant of survey costs--the design of survey questionnaires, and specifically, how to identify and ask only those questions that are of key importance for the survey topic. A tell-tale sign of a newcomer to the technology of survey research is the appearance of an excessively long questionnaire in advance of a carefully worked out statement of detailed survey objectives. Indeed, even among seasoned survey researchers, there is a tendency to collect more information than they need because "it would be interesting to know." On virtually every subject tackled by a survey, one could make a list of relevant questions far larger than any reasonable questionnaire should include--not just because wording variations permit numerous changes in a single question, but because there are generally so many aspects of the subject that could be explored.

There are real cost implications in questionnaire design. In academic survey research, a questionnaire of average length consists of 80 to 100 questions. Frequently the questionnaire is much longer. In administering a questionnaire of average length to a statewide telephone sample of 1,000 households, just 10 percent unnecessary questions creates 10,000 additional response items for the office staff to ask and record, code, keypunch, verify, and process. That is a lot of cumulative labor that will cost a lot of money. So if the only reason for asking a question is that the answer "would be interesting to know," or "Let's try it and see what we get," you can be sure that time and
money will be wasted.

Not only the length of the questionnaire, but also the type of questions asked has cost implications. Questions that require recording a verbatim or open-end response take longer to administer in an interview and longer to code than do questions having a predetermined and precoded set of answer categories. Cumulated over the entire survey sample, the result is that surveys consisting of a high proportion of mostly open-end questions require more work and are relatively more expensive.

Even the layout of a questionnaire—the way in which questions and response categories are arranged on the page—has cost implications. The convenience of the office staff as well as the interviewer or respondent should be considered. Layout and printing should be such that editing and coding can proceed smoothly. And as data are usually punched straight from the questionnaire, it should be designed with this in mind; code numbers should stand out clearly so that keypunchers can spot them quickly. A questionnaire that is hard to interpret will be hard and costly to administer in the field and also hard and costly to code and keypunch. Errors will be more likely to occur, creating further expense for making corrections, and possibly even reinterviewing the survey respondent.

Also to be considered is the relevance of the questionnaire items to the purpose of the survey. Questions that ask for the wrong information, are insufficiently specific, or are ambiguous in meaning are certain to cause real headaches for a researcher who must try to interpret the findings. It has been said that "no survey is better than its questionnaire," which expresses the truth that no matter how efficient the sample design or sophisticated the analysis, ambiguous questions will produce noncomparable answers, vague questions—vague answers, and leading questions—biased answers.

So you see that the manner in which the questionnaire is designed will reach into virtually every subsequent phase of the survey operation. Each fault in questionnaire structure or function has the potential of creating waste and unnecessary cost. Yet, in 10 years of experience at SRL, I can report that compared to the other aspects of survey design, questionnaire development receives almost casual treatment from researchers.

How do you design a questionnaire? At the outset, a review of previous research should be recommended since, for a wide range of topics, much of the work will already have been done by others who have undertaken related surveys. In starting from scratch, however, or in designing new questions, a researcher can start with almost totally unstructured discussions with experts on the topic to be studied and by doing in-depth interviews with members of the population to be surveyed. The purpose of these early discussions and interviews is to find out the dimensions of the survey topic, how much thought each person has given to the issue under consideration, the level of knowledge about the issue, and the important facets that must be probed. Most questions asked at this stage are open-ended: "What do you know about this problem?" "What do you think about it?" "What should be done about it?" From responses to such questions, an impression is gained of the range of experience and opinion on particular topics and of concepts used by respondents, and the special aspects of the issue that need to be probed if a series of questions is to be developed. If possible, to get the most out of this kind of interview, the responses should be tape-recorded to facilitate analysis of content and also, to optimize the phraseology of the proposed questionnaire.

Then, the next step is to try out a series of questions on a fresh group of respondents to see if the questions are understandable and convey the meaning intended. If they do not, they should be reworded in a simpler and more understandable manner and tried again. Through such a cumulative process, con-
sisting possibly of several iterations, a questionnaire is gradually designed that deals only with the vital issues, worded in a way that gets to the heart of the issues, stated in a language understandable to the least well educated and hopefully, is strictly impartial in presenting the issues. Open questions progress through this pilot work to pre-coded form as the range and distribution of answers becomes clear. This will reduce later interviewing and coding costs. Also, and most importantly from a cost point of view, questions likely to prove of small importance in the final analysis will have been spotted and excluded along with any others that are not strictly relevant to the survey's objectives.

The third major determinant of survey costs is the method of data collection. The main methods are mail questionnaires, personal interviews, and telephone interviews. Frequently, these methods are used in combination. They vary greatly in cost. Personal, face-to-face interviews are by far the most expensive because they require interviewers to travel to people's homes, and as many as five call-backs are often necessary before contacting the right respondent and completing the interview. A survey of the general population entailing many complicated questions would almost certainly call for personal interviewing. Household cooperation rates of over 80 percent can be achieved—so that findings from personal interview surveys have minimum nonresponse bias. Usually, a team of trained interviewers is needed to carry out the fieldwork. The services of a survey organization are frequently required to recruit and train the interviewers, establish pay rates, monitor the fieldwork, and perform quality checks. Before telephone coverage of households in the United States became nearly universal, personal interviewing was the most usual method of collecting data in social surveys of the general population.

However, telephone interviewing is rapidly becoming the preferred method of data collection in such surveys, since more than 95 percent of the U.S. households now have telephones. A telephone survey is considerably less expensive than a personal interview survey, costing only one-fifth to one-fourth as much, because there is no interviewer travel expense. Another advantage is that fieldwork can be done from a central office, permitting tighter supervision of interviewers and immediate quality checks. Household cooperation rates are comparable to those in the personal interview survey; rates of 70 to 80 percent are normally achieved by experienced interviewers.

The least expensive method of collecting survey data is the mail questionnaire or mail survey, which can be done for about one-third the cost of a telephone survey. That is one of its principal advantages. Another occurs when information concerning several members of the household is required. The head of the household may be hard put to give accurate figures of the earnings of individual members of the household, or their average weekly expenditure on meals. In such situations, a mail questionnaire, allowing some intra-household consultation may provide more accurate information than a door step interview. The same is true for questions demanding considered rather than immediate answers, or consultation of documents—for example, "When was this house built?" In this situation, questionnaires filled in by respondents on their own time is preferable.

A disadvantage of mail surveys is that the questionnaires are self-administered and the questions have to be simple and straightforward enough to be understood with the help of printed instructions and definitions. Another key disadvantage is that a mail questionnaire does not achieve as high a rate of response as interviewing, typically only 20 percent of households after two mailings in surveys of the general population. There is only an introductory letter to motivate people to complete and return the questionnaires. However, for a survey of an educated subsection of the population—say, a professional
group—concerned with a subject of interest to its members, the situation is just the opposite. Results of a mail survey can be outstanding, sometimes achieving response rates of 90 percent or more.

The method for collecting survey data is a function of the type of population to be surveyed, the amount and complexity of information to be collected, and how much money is available. For all but the most complex questionnaires and well-endowed researchers, a personal interview survey of any representative size in 1981 is probably out of the question, since the cost per completed interview in such surveys is presently approaching $100. Telephone surveys of representative size fall within a more moderate range of $15 to $20 per completed interview. These per interview costs (at SRL) include all stages of the survey operation, ranging from formulation of the survey plan through tabulation of the survey data.

For a small scale survey, researchers may even decide to carry out their own interviews. The researchers know (or should know) better than anyone else the purpose of the questions, and may be better able than anyone else to resolve questions that arise during the interview. To this extent, they may well get more out of the interviews by doing them themselves than by entrusting their surveys to someone else.

To conclude my discussion of surveys, these are some of the decisions, procedures, and options for the planning and design of surveys available to the social researcher. Too many people think that anyone with reasonable common sense can carry out a good survey. I hope to have demonstrated that conducting a survey is not an exercise in blind and scrappy fact collecting, but the carefully orchestrated result of a combination of organizational and technical decisions.

Even with limited resources, just the right precision can be obtained in surveys by judicious planning. This proves to be the case also in experimental studies in social science, where the same question seems to be raised at the outset—how many cases should be secured for a given study? The answer might be given in terms of the number needed to reach a given degree of accuracy, but this in turn would raise the question of what degree of precision is needed. This depends, in turn, on how small a difference we wish to measure. When group comparisons are made and when the samples are relatively small, the null hypothesis is apt to be accepted too often for the simple reason that a real difference has to be sizable before it is demonstrable by small samples.

If funding limitations prevent the testing of larger samples, the researcher must either test another hypothesis, be content to measure real differences that are larger than originally planned, or increase the sensitivity of the experiment. These are the basic design and planning options available to the social experimenter. Increasing experimental sensitivity would probably be the most preferable of the options. Use of the same individuals in the experimental and control situations, if feasible in view of possible practice or fatigue effects, will increase sensitivity considerably. Then there are procedures for matching individuals on selected characteristics resulting in more nearly comparable groups for the experiment than would result from random assignment, and so on. Some experimental designs will be preferable over others because they permit better control of error and at reduced cost.

To summarize: We know that funding limitations are on the horizon. To continue to uphold our goal of excellence in research, I believe our only option as scientists is to sharpen our skills in research design to maintain or increase statistical reliability while containing or reducing costs. In surveys, the goals are to minimize the size of samples that will yield results at very carefully considered and justified levels of reliability, to identify
and ask only those questions that are of key importance, and to use the least expensive methods of data collection that will provide maximal rates of response. In experimental work, the objective can be met by making the experimental and control groups more comparable on pertinent variables.

For all types of investigation, greater precision can be obtained by judicious planning, and this is your challenge.

SYMPOSIUM: MAXIMIZING QUALITY WHILE LEARNING TO LIVE WITH LESS--
TEXTILES AND CLOTHING RESEARCH CHALLENGE

Joan Laughlin, Symposium Moderator
University of Nebraska - Lincoln

Introduction

By way of introduction this afternoon, I'd like to share with you a comment from a recent Sidney Harris column. "Everyone at a conference professes to be looking for 'new ideas,' but a genuinely new idea frightens most conference to death. (What they really want is a familiar idea comfortably disguised.)"

Why research? Of what special value is research?

One answer might be to enable the profession to serve mankind effectively. No field of learning has made major contributions over a long period of time without a research base. Furthermore from research emanates the depth and breadth that enables the field of study to reach its optimum potential.

The crucial issue is the future of our profession. To set the stage for the statements to follow, I'd like to pose the rhetorical question: "From whence will come the knowledge to be disseminated in our classrooms, or delivered by our extension service, or passed to our client groups? If it is not the fruition of the efforts of textiles and clothing researchers, then are we stepping aside for sociologists, psychologists, biologists, chemists, philosophers, historians, artists, mathematicians, and/or physicists to uncover the theoretical framework, to seek the solutions, to ask the questions, to find the answers, and then to expand the definition, scope, breadth and depth of our discipline?"

A third incentive for research is to become one's own individual best. At its finest, research is the process of intelligence, thinking, innovation, development, flexibility, adaptability, curiosity, restlessness, and eagerness. Research demands continuing vigor, and an ever-present sense of purpose and direction. Additionally, surviving the '80s on college and university faculties implies research and/or creative activities of professionals seeking tenure/continuous appointment, promotion, and/or merit salary increases. It is a normal expectation that faculty will do research, will obtain funding, and will publish.

The Home Economics Research Project Inventory, (Keiser and Tripple, 1980) defined research as scholarly activity or directed inquiry into a field of learning that results in creative work(s) placed in the public domain. In the 1979 survey of 360 home economics units with 120 textiles and clothing researchers conducting 164 projects, funding averaged $9,702 per project and $13,980 per project leader. Of all funded home economics research projects, only 8 percent
were textiles and clothing. Of all the home economics research reported, 9 percent originated from clothing and textiles researchers.

Our primary avenue for reporting research are theses/dissertations and professional publications. As a subject area, we recognize limitations in funding, yet we have a negative relationship between output (i.e., publications) and the number of projects or the number of researchers. Our primary output, theses and dissertations, have limited accessibility and over one-third of the outputs were student-generated documents.

Research must be sustained at a prominent position within universities if we are to cope with an increasingly technical world faced with finite resources. The 1980s are characterized as transition from an economy of affluence to an economy of scarcity. Coupled with declining student enrollments, the margin for "dead wood" in faculties is lessened. Administrators are faced with pruning until they uncover "live growth."

The 1980s demand research with a different perspective. The waning days of the twentieth century demand we strike a realistic balance in resource allocation that will see us through to the next century. Modification in the government/education interface, steady inflation, plus rising real costs, change in enrollment patterns and majors of traditional and nontraditional students, decreased mobility of faculty, modifications in lifestyles, and attitudes toward work and leisure mean that the 1980s and the 1990s will be periods of transition and change on campuses.

Yet there also will be enhanced opportunities for the researcher of the '80s. Information processing, communication (data base search), and computation are among the resources that can be anticipated to drop in costs. Research designed to use these capabilities maximizes resources effectively. A comprehensive systems approach to the research area assists in pinpointing the design and objectives. Without it, the end result may not be what is desired.

The members of this symposium will address these issues viewed from our perspective as researchers and as textiles and clothing professionals.

The symposium participants represent 64 years as professional home economists; 24 years on the faculty in textiles and clothing; 14 years in extension; 12 years Agricultural Experiment Station Research; 13 years research, with non AES appointments, 13 years total AES State Projects; 7 current AES State Projects; 4 total Regional Research Projects; 3 present Regional Research Projects; 14 outside grants, $202,000 total dollars awarded; 8 current grants, $157,000 present dollars awarded; and 53 papers published with 374 pages.

May I present Kitty Dickerson, Jacqueline Orlando DeJonge, and Betty Wass.

GETTING GRANTS AND FUNDING

Kitty Dickerson
University of Missouri - Columbia

A fact of life in higher education in the eighties is that we are expected to add to the body of knowledge in our fields--and that comes through research and scholarship, or creative efforts in design areas. Another pronounced reality of the present in higher education is that requirements for tenure and promotion have become more and more stringent. Further, we might add that in tight budget times, the pie from which raises are taken may require a sharper knife for taking a slice.
As expectations for tenure, promotion, and raises become more stringent, the necessity of becoming involved and productive in research/scholarship or creative endeavors is no longer a choice—at least at many major universities. Already, at some of these, the likelihood is slight that one will receive tenure or promotion without the research/scholarship/creative efforts. Faculty at many four-year colleges are feeling similar pressure. This is a fact of life that we must accept as part of choosing a career in higher education. Or, if these realities came along after we made our choice, they must be faced in choosing to stay in higher education.

It also means that as women in a field with a high predominance of female faculty members, we have made career choices in which we have to meet the same standards of performance in terms of productivity in one's respective field as men in engineering, chemistry, or whatever. The fact that we may have families to care for, houses to clean, and laundry to do does not excuse us from meeting the same expectations of productivity as male colleagues on our campus. Universities and colleges besieged by budget problems cannot afford dispensation for our domestic woes—nor can our discipline wait patiently until all the dust is collected from our baseboards. And, as one colleague put it, promotion and tenure decisions are not made on the number of children we have.

One consequence of limited resources is that we have to make what we have count to its fullest capacity. That means that expectations for productivity are probably greater than ever. We do not have room for the extravagance of being marginally productive as faculty members at a particular institution or as members of a discipline. Therefore, if we need consolation in these days of bleak budget news, the positive note of the hour may be that our finances may cause us to stop and carefully examine whether the things we are doing are the best uses of our resources of time and money.

So, if we accept research/creative endeavors as a looming fact of life for us at universities and colleges, then we are faced with the dilemma of how we can finance our projects. Actually, there are alternatives. And given these alternatives, learning something about grantsmanship looks better all the time. So, planning a strategy comes next.

STRATEGY POINT 1—Ask yourself, "Is the topic/project important?"

Since the days of having research money drop freely from heaven (also known previously to some as the federal government) into our colleges and universities seem to be over, it is more important than ever that our ideas be those that taxpayers deem worthy to support.

Senator William Proxmire, in his book, The Fleecing of America, points out that officials must ask themselves (he thinks many fail to do so) and we must ask ourselves, "Who really cares what the answer to this investigation is?" Sometimes the answer is obviously "no one." What value does it have to an American taxpayer? In discussing the rationale for his "Golden Fleece" award, Senator Proxmire noted that professors at universities are not being crucified on a figurative cross. He says, "They are simply being challenged to justify and to defend on their own terms the expenditure of thousands of the public's hard-earned tax dollars...."

We must take our research seriously. We might ask if what we are doing is what the Vice-Provost for Research at the University of Missouri-Columbia calls "ho-hum" research. Is it letter-perfect in design but providing answers that no one but the researcher cares about?

Eve Barry, trainer for the Washington, D.C. Grantsmanship Center, notes that most successful grant projects have a clear element of service. That is, in the long run, someone besides the recipient benefits from the research.
We have important contributions to make. We in clothing and textiles, and all of home economics, have much to offer at this resource-conscious, energy-conscious time. So, it behooves us to focus on topics whose importance can be justified both in terms of salability of the idea for funding potential and also for the political benefits to our field. There is also a ripple effect in benefits from choosing a topic of value; that is, there are ready-made audiences for our results—business and industry, consumer groups, publishers, and others.

STRATEGY POINT 2—Have courage and persistence.

It seems to me that one of the most difficult aspects of proposal writing is dealing with the trauma of looking at requests for proposals (RFP's), proposal guidelines, and some of the forms—particularly those associated with proposals to federal agencies. Another difficult hurdle for me was getting over the mind-set, the misconception, that people who write proposals are several times more brilliant than I. It is my firm belief now that the people who get grants are the ones who have worthwhile ideas and the courage and persistence to wend their way through the proposal jargon and red tape. The successful grant recipients are those who do not give up when their proposals are criticized severely by reviewers or even when their proposals are turned down by the first organizations to which they were sent.

STRATEGY POINT 3—Consult "expert" sources.

As we try to forge ahead with courage and persistence, there are many sources of help to see us through. We do not have to muddle through the trauma of jargon and red tape alone. In many cases, experts in research funding and grantsmanship are available on call to us. We may have a dean within our college who can help. Most major universities, at least, have research offices staffed by experts who "know the ropes," so to speak. They can help point us in the direction of agencies or foundations that would be appropriate to approach for funding our research project.

It has been said that the search for funding can be described as nothing more (or less) than a demanding research project in itself. Most sources of grant money have specific stipulations for the endeavors they are willing to fund; therefore, it is very important for grant seekers to find out which sources have an interest in projects being proposed. Locating appropriate organizations before submitting an idea is essential homework.

One of the most common reasons for outright rejection of grant proposals is that the applicant is way off mark. According to some experts on grant-getting, "shooting wild" is both ineffective in getting grants and may even weaken chances at an appropriate source. Like many fields, the professionals at foundations are part of a close-knit world where insiders communicate continually. Therefore, careful initial work is important. The research administrators at your institution can help you focus in appropriate directions. Some of the directories of sources with which they can put you in touch are included at the end of this paper.

STRATEGY POINT 4—Make a preliminary contact.

After formalizing one's ideas and finding a source that appears to be a good funding prospect, it is wise to contact the program director of that organization. In his seminars, David Bauer of New York State University College of Technology at Utica-Rome, cites a University of California study of 10,000 federal contracts. The common denominator among successful applicants was whether the recipient had spoken with the funding source before writing the proposal. According to the study, pre-proposal contact tripled the chances for success of the applicant. This contact may be just a simple phone call to the project director or it may involve more extensive contacts with agency per-
sonnel. A contact of this type will give the applicant a clear notion of what the agency will fund and will provide some exposure for the applicant.

I have identified a number of federal agencies that have indicated that projects related to clothing and textiles could qualify for their funding. I have talked to program directors in at least one area of each of these agencies, and they encourage appropriate proposals from our members. I have discovered one discouraging note in making these contacts, however. We in clothing and textiles are letting our colleagues in other academic areas write the proposals, get the funds, and conduct the research—in areas that should be ours.

In summary, as much as professionals in any field, we have what it takes to get grants. We need to familiarize ourselves with a few of the basics, overcome our awe for the mystery of the grant process, and most of all, plan a more aggressive campaign for acquiring grants. As Eve Barry of the Grantsmanship Center noted, "Funding sources are construed as inhuman and unapproachable, which is not at all the case. A fog of seeming inaccessibility has shrouded the whole subject and has eclipsed the actual nature of getting grants. Grantsmanship is simply imaginative, able people with tasks they would like to accomplish contacting like-minded people with funds to give. No dragons to slay, no genies or magic lanterns. No royalty involved." Many in our field are already successful at grant-seeking. Many more can and should be. Particularly at this time, of tight university budgets, we should not be "caught with our grants down."

Resources:

Aids for Identifying Possible Sources of Funding
The following are aids for identifying possible sources of grants or other funding appropriate for your particular project:

1. The Foundation Directory - gives information about each of the largest foundations in the country, published annually by The Foundation Center.

2. The Foundation Grants Index - lists 300-400 of the foundations from The Foundation Directory and identifies the projects/agencies funded and the amounts granted; a source of addresses for foundations. Published annually by The Foundation Center.

3. Annual Register of Grant Support - includes information concerning professional educational associations; has a good introductory section that explains various types of grant-making organizations; gives tips on program planning and proposal writing. Published annually by Marquis Academic Media.

4. Directory of Research Grants - a compilation of up-to-date information about grant, fellowship, and contract support programs available from federal and state governments, private foundations, associations, and corporations for research, training, and innovative efforts; contains subject categories.

5. Grants Register - information on more than a million individual award opportunities for professionals, scholars, and others who wish to undertake studies, creative work, projects, or training (not necessarily academic) of an "advanced" nature; unlike many sources, it is international in scope.

6. Catalog of Federal Domestic Assistance - information on possible sources of support through agencies of the federal government; published annually.
7. **Federal Register** - published daily; lists possible sources of support from all the various federal agencies.

8. **Commerce Business Daily** - published daily; lists possible contract opportunities through the federal government.

**Computer Searches**

1. **ORBIT System** - a computer search of sources given in many of the above directories; done by key word identification.

2. **FAPRS System** (Federal Assistance Program Retrieval System) - a computer search of sources from the Catalog of Federal Domestic Assistance.

**Potential Sources of Funding for Clothing and Textiles**

The following agencies have indicated that there are possibilities for funding of clothing and textiles projects if the focus is appropriate to their charge:

**National Endowment for the Humanities**

Dr. James Blessing, Director, Division of Fellowships

806 15th Street, NW; Washington, D.C. 20506

202/724-0238

Supports projects in the humanities; must tie to social science aspects, e.g. social and cultural values; use historical or philosophical approaches.

**National Endowment for the Arts**

Mr. Burt Kubli, Design Art Program

2401 "E" Street, SW; Washington, D.C. 20506

202/634-4276

Research on design; demonstrations for design excellence; how design makes quality of life better; project must have national impact and be transferrable.

**National Institute of Handicapped Research**

Inquiries and requests to get mailings should go to:

Mrs. Deborah Linzer

3511 Switzer Building; 400 Maryland Avenue, SW; Washington, D.C. 20202

202/472-6551

For information on priorities to be addressed as research needs, contact:

Dr. Cecilia A. Frantz, Director; Room 3060, same address

ACPTC members can have impact here in a way that might open this funding to clothing and textiles more fully. A list of priorities identified as "research needs" will be published by the Secretary of Education to be followed by a 30-day comment period. See information above for receiving this list. If no options exist for C & T research on that list, then members should write to suggest that a "need" should be broadened to include our field. This should be supported by persons from ACPTC who identify the state of the art, where gaps are, and a thoughtful list of our possible contributions to this "need" area. Correspondence during the comment period should go to:

Mrs. Jean S. Tufts, Assistant Secretary, Office of Special Education and Rehab. Services, Room 3006, same address as above

**Bureau of Education for the Handicapped**

Dr. Max Mueller, Chief; Research Projects Branch

U.S. Department of Education; 400 Maryland Avenue, SW; Washington, D.C. 20202

Focus should be on research related to education of the handicapped.
HOW CAN TEXTILES AND CLOTHING RESEARCHERS COPE WITH LIMITED FUNDING?

AGRICULTURAL EXPERIMENT STATION RESEARCH

Jacquelyn Orlando DeJonge
The University of Tennessee

Agricultural Experiment Station Research. I can hear the majority of you registering mentally, "Well, that doesn't apply to me." I can also tune in on some finer points of your thinking:

"AES has never funded research in textiles and clothing at our university, and I sure can't see that changing." "We only have one AES position in our department; guess it's tradition or a token appointment, but it will never change." "Our Experiment Station is only interested in Ag. research." "I can't even talk to the AES administrators on our campus. They don't know or care about research interests in textiles and clothing."

If any of these statements ring true, I urge you to listen. These thoughts were also mine at one time, but I've changed my thinking and also my dealings with AES and have seen positive results.

We all know that the funding picture for research is not improving overall. In the midst of all this pessimistic news, the national AES picture is brighter than you may expect. There were no cuts in Science and Education in the Department of Agriculture budget this year.

State funds are, however, a different picture. Some state legislators are hitting agriculture hard this year. In Tennessee we have received severe cuts for the Institute of Agriculture, which includes AES on our campus. In Michigan, where cuts last year forced a reevaluation of priorities, the picture is beginning to brighten with small increases in funding for AES this year.

The end result of the financial picture in many states may be a tightening of resources and a more critical evaluation of incoming and ongoing projects.
This will create a situation of striving to both maintain and build AES programs in our area. It is of interest to note that only 2.8 percent of total experiment station funds are directed to home economics. Of the total professional researchers in experiment stations, there are only 3.6 percent in home economics. We are not only extremely low in numbers, but are not getting an equal share of available funds.

It will take creative and aggressive researchers and administrators to change this position. To begin our thinking in this direction, I would like to address how to interpret AES research goals for our benefit, new channels for AES research, and the role of the creative and aggressive researcher and administrator in maintaining and securing AES resources.

According to the experiment station directors and 1980 research directors, as reported in the 1981 New Initiatives in Home Economics report, the major factor influencing research priorities is availability of funds. Inconsistencies abound in the directors' responses regarding factors used in setting priorities and allocation of funds. Their responses suggest perceived societal problems and needs of rural families are equivalently important to known needs of producers and processors. Yet the reported actions reflect the premise that agricultural research has a primary mission of the productivity of food and fiber for the American population. Social problems are forgotten or ignored.

How well do you know the AES administrators on your campus? I have visited with experiment station directors at several major universities in the past month asking what they look for in prospective AES research. The comments I received were: good science, linkages with other departments, compatibility with overall priorities, and larger scale projects. When I asked how they saw home economics projects fitting in with priorities, I received answers that were very similar to the New Initiatives findings.

One director saw as the primary mission increased productivity in agriculture and improved quality of life for American agricultural families. He stated the importance of human factors and discussed the fact that all the technological advances will not be the answer if the human factors are not considered. When I pushed to see how some of the sociological studies that we might propose would be accepted, he stated that the decisions are primarily left up to departments to determine priority research areas. If a study in that area are seen as important by the department, they would approve it and funds would then be allocated from the department's AES budget. However, if new funds were to be generated it would most likely be in an area that would be more directly related to agricultural needs. So we are back again to the realization that to increase our funding or AES appointments, we must stretch our imaginations in interpreting AES goals for our benefit.

I began my AES appointment three years ago at Michigan State University with the challenge of getting research started that had some connection to agriculture. I started by conducting a survey of farm safety literature to identify clothing-related issues. I identified physical and chemical sources of danger to farm workers. I decided to begin with chemical sources, specifically pesticides, because of increasing concern in this area and the good possibility of visibility for funding. I knew the area of functional apparel design, but nothing about pesticides. I visited with half a dozen agricultural researchers before I found one who expressed more than a passing interest. It was discouraging at times, but I never gave up. Even the person I found who was interested was skeptical of what I could do with my home economics background, but he agreed to offer technical advice and moral support.
During the past three years we have built a collegial relationship and have both benefitted greatly from this type of interdisciplinary research. I had to prove myself and I knew I was on the line with my research experience. As Dr. George Ayers and I worked together this past summer completing another phase of the research and our second article, he still jokes with me about his intentions to give only moral support. As the project developed, he became intrigued by what we could accomplish as a team. We both have learned so much in exploring a new field of research that even though we are now at different universities, we continue to collaborate on research. His colleagues who at first looked askance at his involvement in the project are now following our findings and contributing their ideas as we move in several new directions. And the Experiment Station directors from both universities look to the project as an example and have been extremely supportive in both words and actions. Much can be gained through interdisciplinary research with colleagues in agriculture.

I used the area of pesticide research as one example only. There are many other areas that we need to explore creatively. A recent article in Forbes Magazine discusses that a breakthrough is needed from universities and businesses if we are to avert a food crisis. The land itself is diminishing. The United States farms 413 million acres today, but loses more than three million acres a year to a combination of urbanization and soil erosion. An Iowa farmer confirmed this, noting that "more tons of soil were lost last year than during the Dust Bowl."

So, is all of this just an interesting fact or can we as textile scientists contribute to the basic research necessary to inhibit erosion? In some vegetable farming applications, impervious, opaque polyethylene films are placed along the top of a furrowed plant row. Prior to placing down the plastic, the row is prepared and fertilizers, nematode treatments, and other required ingredients are added. Then the soil is watered well, and the plastic is placed along the top of the row. When each plant is transplanted, a small hole is punched through the plastic and the plant inserted into the soil so that the roots are below the plastic with the remainder of the plant protruding above for exposure to sun and atmosphere. This method offers a number of advantages:

1. Significant moisture retained in soil.
2. Plant nutrients not washed away.
3. Soil erosion reduced.
4. Plant growth promoted while retarding weed growth.

The primary disadvantage is that after the soil gradually dries out due to drainage, plant uptake, and moisture vapor transmission (although rather low) through the plastic, rewetting the soil through the plastic is impracticable.

An alternative to plastic films, not yet evaluated, is to use spunbonded nonwoven fabrics that are composed of continuous fibers randomly layered on each other to form fabrics with fine pores between fibers. These fabrics can be colored black for opacity and obtained in a wide range of weights. The porous nature of these fabrics should allow rain or irrigation water to pass through to the soil. The porosity of these fabrics can be reduced to retard desorption of moisture from the soil by increasing fabric weight. After fabric porosity has been reduced to a point that rain water cannot readily penetrate, it may be necessary to add a wetting agent to the fabric. This should, in effect, create a one-way valve in which rain can penetrate, but in which moisture vapor transmission back into the atmosphere is greatly diminished.
If a biodegradable fabric is desired, the above mechanism also should be achievable using a completely cellulosic nonwoven. Wet or dry-laid cellulosic nonwovens with biodegradable adhesive binders would be good candidate fabrics.

Experiments can be devised in cooperation with the Agricultural Experiment Station to evaluate commercially available nonwovens by assessing the parameters of plant growth rate, moisture content of soil, moisture vapor transmission rate of fabrics, and effect on controlling weed growth.

In yet another area, respirators are available to farm workers for filtering out dust and other irritants. However, these respirators usually have significant air resistance and, consequently, are somewhat uncomfortable to breathe through. Furthermore, they are perceived to be hot and often result in skin irritation at the points of facial contact.

This is an area in which recent advances made in the development of surgical face masks can be of great advantage. The aseptic requirements of the operating room necessitate that the surgical face masks worn by the operating room personnel be virtually 100 percent efficient in filtering out aerosolized bacteria and other particulate respired while exhaling. Since operations normally last from one to three hours, the masks also must be comfortable and in no way inhibit the work of the surgeon and assistants.

The same principles of gaseous filtration apply for respirators as for surgical face masks, with the exception that respirators are intended to protect the wearer from inhalation of foreign particulate. Filtration efficiency tests could be performed with different surgical face masks under different simulated agricultural environments.

I present these ideas as stimuli only. They are concerned with issues that are important to agriculture. We may not have the total expertise to conduct the research, but neither do our colleagues in agriculture. It is only by working together that real advances can be made.

I challenge you to read agricultural publications and read into them how researchers in textiles and clothing can become involved. In preparation for a paper I am presenting at the National Outlook conference this year, I requested information from 40 departments of textiles and clothing nationwide. Fourteen percent of the research reported was funded by AES. These included 9 in the general area of clothing and 13 in textiles. Included among the textile projects were pesticide and insect-related research, fabric deterioration from pollutants, and textile processing studies. In the clothing area, economics was the area most represented with studies on clothing acquisition, use, and wear life. One study on the attitudes and values of preschoolers regarding used clothing integrated sociological and economic theories. Studies in aesthetics and retailing also emphasized the economic factors.

Only you can determine what your administrators in AES will fund. As I talked with AES directors, the message I heard was SUBMIT PROPOSALS, TALK WITH THEM ABOUT IDEAS. Don't consider an idea defeated until you've tried. Know the overall AES goals and the direction your station is taking, and work on your ideas to align them with these priorities. You have something special to offer--let them know about it.

Referring again to the 1981 New Initiatives in Home Economics report, the attributes of research requiring improvement in home economics were identified as productivity, generation of ideas, follow-through, problem identification, and research methodology. These problems stem from lack of research training, experience, and critical thinking. We can individually recognize our research weaknesses, but actions to correct the situation are both a personal professional obligation and an administrative one. Suggestions for continued
education--by auditing research related courses and using campus statisticians and consultants--are important. However, I feel that the unit administrator has just as important a role as the individual in increasing our research productivity.

You have gathered by now that I feel increasing our contacts and communication with AES is important. In most of our universities, this is the role of the administrator. Getting involved in agricultural meetings where you can be assertive and remind our agricultural colleagues of the relationship of issues to programs is one way. I saw this happen in one university where a large project on energy conservation on the farm was turned around to consider the home as a major component of the project. This impact was the result of the diligent perseverance of a home economics administrator in textiles and clothing.

As administrators we also should recognize the importance of our faculty engaging in interdisciplinary research. This may involve attending professional meetings outside our area of specialization. As we look at the meetings attended by our faculty, how many of us see the same meetings being attended by nearly all of the faculty. It is important to meet with our own colleagues, but we cannot become more visible and externally stimulated by talking only to ourselves.

One very difficult problem we have to deal with is faculty load and time for research. Giving released time to faculty who have secured outside funding is often expected, but what do we do to help those faculty who have such full teaching schedules that they may never be able to get started on seeking research funding. If the faculty as a whole sees the importance of building the research efforts of a department, could we not schedule heavier loads for all faculty one quarter during the year to give faculty a light quarter for research emphasis?

How many of us have departments where the faculty's research with graduate students is pulling them in so many different directions that they have no area of excellence. It is true we try to accommodate graduate students' research interests, but most of our graduate students come without a specific research topic. If faculty members had an overall research plan, many graduate students could be directed to these planned areas of research. Our faculty, in turn, would find several student research projects could contribute more meaningfully to visibility for textiles and clothing research, and we could be building more pertinent areas for future funding. As an administrator, you can encourage faculty to develop such a plan once they recognize the benefits.

Many of us have faculty members with excellent ideas and lack of experience in research methodology, or those with strengths in methodology who have run out of new research ideas. An administrator who knows each faculty member well can make use of these strengths and weaknesses by pairing faculty members to work on joint projects and rewarding collaboration.

Whether it is for the sake of increasing AES research or for research in general, these are a few tangible suggestions that all of us as researchers and administrators can follow to help advance textiles and clothing research to the level of productivity of which we know we are capable.
As a researcher, I have never been funded by the Agricultural Experiment Station. For purposes of this panel, I am looked at as a non-AES researcher. The AES/non-AES research designation may trigger a different response in your minds than it does in mine, however. On our staff in textiles and clothing at the University of Wisconsin—Madison, no one is given the designation of Agricultural Experiment Station researcher. Nor are we looked at as teachers versus researchers. Persons on tenure-track appointments are all expected to do both teaching and research.

I approached this topic then thinking that except for the limitations on focus that pertain to projects that are funded by AES, there are only a few aspects of AES and non-AES research that differ. One difference between the two is that the researcher funded by the Agricultural Experiment Station is often tied into a group project, whereas the researcher funded from other sources may have the freedom of working as an individual. In the first case, success depends on how a group performs as a whole. In the second, perhaps the researcher has greater freedom to pursue his or her own interests. However, non-AES could also be group research. Therefore, I believe that the only substantive difference between these types of research is the source of funding.

The sources of funding of non-AES research are foundations, government, industry, your own college or university, or philanthropic individuals. Consideration of the sources immediately suggests constraints. Your interests as a researcher must coincide with those of the foundation, industry, or agency that is providing the funding.

I have not had the experience of being funded by industry either, but I did interview my colleagues who have had such funds and I'll pass some of their comments on to you. In most cases, industry has the ability to do their own research on their own premises. Industry comes to the university with funding for research when they feel that (1) greater creativity exists in the university than can exist in a company atmosphere, or, in a similar vein, (2) the freedom of thought in a university could contribute to a solution for a particular problem that they want addressed, and/or (3) the company does not possess the background of knowledge that can be found in university personnel. Finally, industry in the interest of public relations as well as tax advantage, may be willing to sponsor the research of a professor or a department, often by unencumbered funds. This kind of liaison develops through personal contacts of professors who have done prior consulting with industry, or if professors make themselves available at conferences, meetings, etc., where business representatives are present.

In this age of litigation, industries weigh every word that they sponsor. Be sure that your school has a contract with sponsors that stipulates no restrictions on publication of findings. A recent unfortunate example comes from my school. A student had received modest funding for a project. The funding agency decided that they did not want her findings published, even in a thesis, and when she could not comply with their demand, they withdrew their funding. Regretfully, proper contracting via university channels had not been instituted when the research was initiated.

Another constraint is that the deadlines of industry may be shorter than the usual deadlines in academia. Business and industry are accustomed to quick feedback. They have little sympathy for the fact that the research is
being done in a university or college in addition to a teaching load and as part of graduate education.

But to get funded by business, industry, the government, or almost anyone is exciting, so let's decide that we can deal with these problems and we'll get started.

Since we have been given some excellent advice of a general nature about "Quality Research with Limited Funding," it is the charge of the panel to deal with specifics. To me, this means divulging some of my own personal philosophy that has developed over the past six years while I was pursuing that uncertain course toward the goal called tenure. There is no single path leading to that goal, but perhaps something from my testimonial will provide someone with some inspiration to use themselves or to pass on to others.

First, one has to have research ideas. Early in this phase of my career someone suggested that I keep a file of research ideas. Conferences such as this usually generate ideas for projects that I would like to follow up on and, if I don't write them down, in a short time the distractions of teaching and committees will erase those ideas from my mind. I did start such a file folder and occasionally I do look in it to see if I have an idea that fits the interests of a particular funding agency or student.

Second, plan to start on familiar ground. It is usually necessary to build a track record before dealing with large foundations or agencies. Sometimes it may help to start small.

I got a start with two small grants from the Graduate School at the University of Wisconsin. Our Graduate School funds small research projects under $10,000 with the primary objective of helping new researchers begin to build a research record. In that particular system, a faculty member may be funded every other year, or two summers within three years.

Graduate School funding is competitive. Faculty submit proposals to a review board of professors who have impressive research records themselves. Each applicant is interviewed by a faculty member from another school in the university. That faculty member then represents the applicant before a panel of faculty who make final decisions as to full, partial, or no funding. If your school has this type of funding available, consider that this is a source that will probably allow you the greatest freedom in selecting your research projects.

To continue to be successful in obtaining funding, findings that expand existing knowledge should result from each grant. Reports, publications, lectures, exhibits, or other presentation may all be evidence of such production. In other words, one has to have some evidence of past success to secure funding from foundations. I have a friend in another field who is writing a textbook—the fourth book for this person. The outline submitted to the publisher was quite brief but a major publisher has agreed to publish the book because, as one reviewer stated, this author is "a proven quantity." We only become "proven quantities" by showing evidence of quality production.

I feel, too, that because we are in an area that crosses many disciplines, it is necessary to be a generalist much of the time. Yet budding researchers will dissipate their energies if they try to do research in many different areas. To build expertise and credibility as researchers, they must focus on one area.

Perhaps I'm wishing for too much, but it would be helpful to be able to concentrate one's teaching in the area in which one wants to do research. The practical procedure for accomplishing this is to do research that relates to the content that you teach, and hope that your teaching assignment doesn't change drastically in the next year. Tying your own research findings into topics
covered in classes complements lectures, increases credibility, instills in students a greater appreciation for you as a teacher, and whets their appetites for research. I have been able to develop several lectures around my own research and have had the pleasure of reading student evaluations that tell me that my unique personal experiences make this class "so interesting."

Coming back to funding, we note that local and regional funding sources are going to assume greater importance since impending federal cutbacks in funding are making scarce resources even more scarce. A good source of information about local and regional foundations is called The Foundation Directory. It lists more than 2,500 private foundations and community trusts across the country. It includes descriptive and statistical data alphabetically by state and by field of interest as well as the address, name of donor, date and place of incorporation, financial data, range of grants, and names of officers and trustees.

Learn what the interests of a foundation are before you write your proposal in detail. Many foundations have specific criteria regarding whom they will fund (such as only persons living in a limited area) and what kinds of topics they fund.

What will a foundation look for when you submit a proposal? This question is answered very well in an article by Robert Mayer in the Library Journal of July 1972. His advice is still good. Three points are stressed: (1) a specific need is addressed, (2) a tight budget is calculated, and (3) there is evidence that your interest falls within the interests of the foundation. He goes on to say that personnel of local foundations are usually not going to do deep analyses of proposals. They want "an exciting project, soundly conceived and presented in well-documented manner." Before approaching a foundation "have a well-conceived, well-documented hard proposal and know as much as possible about the foundation you are approaching."

Good proposals require time to prepare. Think through each step as completely as possible. Have a clear statement of methods and a management plan. One of my own strategies has been to set aside two weeks in the summer to concentrate solely on writing the proposal. The proposal for a federally funded project that I am just completing consumed every spare minute of time that I could muster for six weeks during a semester. Needless to say, other things did not get done as I would have liked during that period of proposal writing. Everyone has to find their own mode of operation, but planning ahead and allocating time for proposal writing does pay off.

Finding time for research is a problem we all deal with. In my view there are two very important requirements for doing good research. One is to find sufficient time among all your other duties; the second is to find good, reliable, trustworthy graduate students who can generate some ideas on their own and who can proceed with a reasonable amount of supervision. What sustains the dedicated researcher through periods when pressed for time, however, is the curiosity that compels one to get an answer. One has to have an intellectual passion that makes pursuing research a high priority.

Competition is intense. For example, my own recent grant, which was from the Ethnic Heritage Studies Program of the Office of Education, was one of 58 projects funded from 635 proposals submitted. To help the funding applicant, agencies often list in detail what they will look for in the proposal. Comply with their directions and you're halfway to being successful. Failure to fulfill some small stipulation may put your proposal out of the running. Representatives from the Ethnic Heritage Studies Office in Washington, D.C. held regional training meetings to assist in developing proposals. The advice
that I've just given you about tending to details came from one of the sessions I attended.

I began by stating that the non-AES researcher has the freedom to work as an individual. They also have the privilege to flounder alone. No team is there to prod you on. For this reason it is desirable to link up with persons who have successful research records and past experience if you are a beginner. A well-chosen co-worker can assist in aspects of the project and provide the stimulation needed at critical times. At least have your proposal read by someone who has been successful in securing funding.

Be aggressive, yes aggressive, as well as assertive. Since we are an applied area it is important to make contacts with persons in basic disciplines. Become active in another professional group besides textiles and clothing that supports your interests. Textiles and clothing needs all the support we can get among ourselves but we also need visibility. Finding a research partner outside of textiles and clothing can add another valuable perspective to your research efforts.

My final comments pertain again to funding. I've surveyed several persons while preparing these remarks and I've learned that many people (in our field and in others) are spending some of their own funds to do personal research. Perhaps it would be wise as a professional person to set aside a small amount of contingency funding for this. We put our own money into preparing for a career; think of an investment in research as an investment in continuing a career. I advocate spending some of one's own money to get started if you have tried other sources without success, because I know that one project often leads to another and the next one should be funded. If your investment in your own research doesn't pay off in time, it's a poor investment, of course. I suspect that my last point is quite controversial, but I'd like to emphasize that persons should not feel they are failures if they have to spend some of their own money. Many other researchers have contributed toward funding themselves. Just don't make a habit of it.

Summary - Joan Laughlin, Moderator

The objective of this symposium was to motivate each of you to active involvement in your own research, to show you that research can be an integral part of your position in academe, and to point out ways in which our experiences might encourage you to launch a research effort, enlarge a program, or make the effort more productive. As participants, we were selected more for our current involvement in research, rather than our long and fruitful histories.

What motivates us to do the job? Maslow would remind us that there is an active will to do, an impulse towards growth, to the actualization of an active will to do, an impulse towards growth, to the actualization of human potentialities. In maturing, through our active efforts, our creative human potentialities manifest themselves. We should not be motivated to do research, or powers manifest themselves. We should not be motivated to do research, or threatened position - even though tenured. Involvement in more technically threatened position - even though tenured. Involvement in more technically sound research should be an experience in creating and defining "me." We can sound research should be an experience in creating and defining "me." We can be motivated to do the job through the met needs identified by Maslow. Each be motivated to do the job through the met needs identified by Maslow. Each individual, each actualizing person has to have his/her own creativeness, his/her own project, his/her own thing.

Recently, a colleague and I were discussing these issues. He made the point that the advantage of tenure was that it enabled the faculty member to
give the graduate student the credit. Likewise, I firmly ascribe to the belief that rather than "rank has its privileges" or "tenure has its privileges," we as a profession and as individuals must be motivated by the belief that "rank and/or tenure has its responsibilities."

The challenge is to emerge as scientific organizers, revealers, and discoverers, rather than as knowledge catalogers or technicians. The challenge is to recognize and appreciate the place of research in our profession and our professional future. The challenge is to read more widely, listen more knowledgeably, think more critically, work more skillfully, appreciate more fully, or the future may not be ours.
Reduction of pesticide poisoning among agricultural workers has included focusing on protective clothing. Such clothing can become contaminated by pesticides (1). There have been few studies investigating the potential danger of pesticide carried in clothing after contamination. In a 1972 study, Metcalfe found that insecticide remained in fabrics even after three washings, that the residues were biologically active, and that residues were transferred from contaminated fabrics to clean fabrics during concomitant laundering.

During the Easley study (2), which evaluated the ease of removal of methyl parathion (O,O-dimethyl)-p-nitrophenyl phosphorothioate) (MeP) formulation through laundering, insecticide odors prevailed in the laboratory following laundry procedures. Suspecting contamination of the washing apparatus, the canisters and the rubber sealing gaskets of the Launder-Ometer were analyzed. MeP was present in the rinsate. It was apparent that a potential existed for transfer of pesticide in home laundry. This study was undertaken to evaluate this transference phenomenon.

Two denim fabrics were contaminated with three different formulations of MeP (emulsifiable concentrate, encapsulated and wettable powder) and laundered using one of four laundry procedures. The laundry equipment was then used to launder clean all cotton fabrics. MeP transferred from the laundry equipment to the fabric was measured by gas chromatograph following solvent extraction.

Fiber content of the contaminated denim fabric made no difference in the amount of MeP recovered from the cotton transfer fabric. This was not anticipated given the oleophilic nature of polyester and the oil-based nature of emulsifiable concentrate formulation. Pesticide formulation was found to be a contributing factor in MeP carryover to subsequent laundry, with wettable powder formulation the most tenacious. The amount of MeP transferred from one laundry load to the next via contaminated equipment was a relatively small proportion of that available from the contaminated denim fabric. The amount of transferred MeP may be sufficient to present difficulty among susceptible individuals.

Based on these data, care should be exercised in laundering heavily contaminated clothing in the home. The washing apparatus is susceptible to MeP retention with some sustained transfer to subsequent laundry possible. Rinsing the laundry equipment is recommended, although subsequent study may lead to more satisfactory ways to clean up equipment. These conclusions were based on Launder-Ometer studies and before other recommendations can be made, further work using home washing equipment should be pursued.

References:
Modifying Wear Life of All-Cotton Fabrics: Scanning Electron Microscopy of Abrasion Mechanism in Fabrics Treated with Liquid Ammonia and Durable-Press Finish

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The modifying effects of liquid ammonia treatment and liquid ammonia in conjunction with durable-press finish in wear performance of all cotton broadcloth were investigated. Cotton broadcloth was finished at four stages of chemical treatment: (1) desized, scoured, and bleached, (2) desized, scoured, bleached, and durable-press resin treatment, (3) desized, scoured, bleached, and liquid ammonia treatment, and (4) desized, scoured, bleached, liquid ammonia, and durable-press treatment. Wear abrasion was monitored by two methods:

1. Flex abrasion using Stoll Quartermaster Flex Abrader (ASTM D1175-64T test method) and progressively increasing increments of abrasion on specimens in dry as well as wet conditions.

2. Repeated laundry, using Launderometer and modified AATCC test method 61-1975 II A at (40.5 ± 1°C) and a low phosphate (6.1% phosphorous as STPP) built detergent in moderately hard water (76 ppm). Fabrics were subjected to equivalent of home launderings ranging from 0 to 400.

Abrasive damage was assessed from stress-strain behavior of incrementally abraded specimens. Scanning Electron Microscopy was employed to study the flex abrasion phenomenon in dry and wet conditions as well as in laundry abrasion.

The finishing treatments modified the mechanical properties and abrasion behavior of cotton broadcloth as evidenced from SEM observations. The amount of water present in the fibrillar structure of cotton was found to affect the degree and type of abrasion. The effect of Stoll flex abrasion in the wet condition and multiple laundry abrasion was found to exhibit similarities. On the other hand, few similarities could be established between Stoll flex abrasion in the dry and in the wet conditions. The mechanism of flexural fiber fatigue in the dry state was found to be a function of the chemical finishes.

The non-resin-treated fabrics exhibited better abrasion resistance as compared to the resin-treated fabrics, nevertheless liquid ammonia treatment in conjunction with durable-press finish displayed superior abrasion resistance compared to resin treatment alone. Wet fibers, on the other hand exhibited plasticized behavior and moved easily when subjected to deformation under an applied force. The spiral helix uncoiled to accommodate the stresses thus reducing fiber breaks and cracks, but resulting in extensive fibrillation and thinning with long breaks almost parallel to the fiber axis.

The general mechanism of laundry abrasion common to all four fabrics was fibrillation and fibril separation. In contrast to the fiber breaks in Stoll flex abrasion, relatively few fiber breaks resulted from laundering, but extensive mashing and pulling of fibrils and fibril bundles from the fibers were observed. Liquid ammonia treatment did not impart sufficient resiliency to cotton fabric to resist laundry damage. However, durable-press resin finish in conjunction with liquid ammonia treatment reduced the amount of abrasion.
fibrillation, resisted mashing, and tended to hold the fibrils together. This significantly improved the appearance of the cotton fabric in laundry abrasion.

Laundry Detergency and Water Temperature as Factors in Decontamination of Denim Fabrics

Carol Bryan Easley, Joan Laughlin, Roger E. Gold, Duane Tupy, and Kerry Schmidt University of Nebraska-Lincoln

Clothing worn by agricultural workers is subject to contamination from pesticide handling. Recent investigations have demonstrated that once contaminated, textiles are difficult to decontaminate through currently used laundry procedures. There is evidence that substantial amounts of pesticide residues are removed from contaminated fabric by laundering (1,2,3,4). However, residues that remain in the fabric are biologically active (5).

Previous pesticide/launderability studies have dealt with methyl parathion (MeP) removal from fabric. In this area of research, there existed the need to investigate the effectiveness of water temperature variation and commercially available detergents on decontaminating clothing. In a 2 x 3 x 4 design, two denim fabrics were contaminated with a 1.25% emulsifiable concentrate MeP solution. Fabrics were then laundered in a hot (60°C), warm (49°C) or cold (30°C) wash water temperature using one of four laundry detergents (phosphate, carbonate, nonionic heavy duty liquid, or AATCC Standard Detergent 124). Laundered fabrics and unlaundered controls were solvent extracted, and MeP was measured using nitrogen-phosphorous thermionic detection gas chromatography. Percentages of removal were calculated and ANOVA tested for differences in removal.

Fiber content of the contaminated fabric was not a contributing factor in MeP removal, which substantiated a previous study (1). Homogeneity was found among the four detergents examined. There was, however, a definite trend in detergency effectiveness in that the heavy duty liquid detergent removed higher percentages of MeP. Since emulsifiable concentrate formulations are oil-based and heavy duty liquid detergents are noted for oil-removing ability, this formulation/detergent combination may have provided special removal results. Pesticide formulations vary in ease of removal in laundry (1). Therefore additional studies should examine interaction of type of detergent and pesticide formulation. Water temperature caused pronounced differences. Hot water removal was slightly higher than warm water, and cold water removal was significantly lower (p<.01) than hot or warm water temperatures.

Based on these data, recommendations to avoid laundering contaminated fabric in cold water could be made. If an emulsifiable concentrate pesticide formulation was used, a heavy duty liquid detergent will provide increased residue removal, although great differences among detergents were not found.

References:
Computer Use in Teaching Stain Removal

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Consumers' fabric stain removal questions have long been a challenge to home economists of the Cooperative Extension Service. Therefore a computer program on fabric stain removal was developed to use in leader training and public demonstrations in four pilot counties. During the stain removal lessons, participants used remote terminals to access specific information on stain removal from the HP3000 computer in the College of Agriculture Computer Center.

The purpose of this paper is to report on the acceptance and use of the computer assisted instruction on stain removal by 500 adult women participants, ages 20 to 80. Prior to the lessons in the counties, two criteria for success were established--

1. Participants will be receptive to computer-assisted instruction on stain removal.
2. Participants will practice one or more recommended stain removal methods.

Questionnaires and interviews were used to determine success. Results indicated that all participants were receptive to receiving stain removal information from the remote terminals. The home economics extension agents who taught the lessons reported that the participants were fascinated by the computer-assisted instruction. Older women (over 65) had been expected to be reluctant to use a terminal; however no age difference was evident. The ready acceptance of computer-assisted instruction may be explained by the novelty of a first experience with a computer. Many women said they had seen computers on TV or had heard about them but had not personally used them.

Approximately 75% of the participants reported that they had tried one or more of the recommended stain removal methods within two months of the program. Observation by home economics extension agents at club meetings confirmed that a high percentage of participants at least talked about the methods and shared their stain removing experiences with friends.

An unexpected bonus to the lesson was unsolicited phone calls made to the home economics extension agents. Approximately 15% of the participants phoned the home economist or told her in person that a recommended stain removal had worked!

Success of the program may be attributed to many factors but two items should be reported. The home economics extension agents were thoroughly oriented to using the terminal, including what to do when something went wrong. They also were instructed on how to interpret the printouts. In addition, the adult women were eager learners. (Regardless of the subject, making the effort to come to a meeting means they want to learn.)
Apparel Fabric Preferences Of Adult Texans

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To explore consumer needs and preferences for apparel fabrics, the Texas Agricultural Extension Service surveyed 75 adults during January 1981. Seventeen Texas counties participated by randomly surveying several adults per county.*

Most participants lived in rural areas and small cities or towns. Their ages most often ranged from 36 to 50 years. Average family size at home was slightly over three, but ranged from one to eight. Most annual gross incomes exceeded $20,000, with only seven percent having incomes of less than $10,000.

The first apparel preference question listed six qualities commonly found desirable when buying fabrics in ready-made garments or for home sewing. Participants were asked to rank each in order of importance or desirability.

Most desirable factors included ease of care (47%),* attractive appearance (39%), reasonable cost (25%), comfort (20%), fiber content (15%), and durability (12%). Interestingly, cost was not the most important consideration.

The question was also asked if other qualities not listed were desirable and if so, what they were. Fifty-nine percent indicated that no other qualities were of importance.

Each of the six qualities were then listed. The question as stated was, "What do you think of when you hear each of these words?" to obtain a list of associations. For example, what does fiber content mean to most people?

Associations listed most often were as follows: ease of care meant washable (45%) and no ironing (29%); attractive appearance meant looks nice on me (28%) and color/texture/design (19%); reasonable cost meant affordable (35%) and quality/value (19%); comfort meant good fit (21%) and feels good (15%); fiber content meant cotton (16%), makeup of the fabric/fiber (15%), and polyester (13%); while durability meant long lasting (56%).

To determine the importance of labeling considerations when buying garments or fabrics, five common labeling factors were listed. Most helpful were size (39%), care instructions (25%), and fiber content (16%). Not a single participant listed fiber content or care instructions as least helpful information. Manufacturer or brand name was the least helpful according to 60% of the respondents.

The next question was an open response, "What fiber or fibers do you prefer?" The majority (56%) listed cotton first, followed very closely by polyester (53%). Also cotton and polyester blends were important as were wool and nylon. Sixteen percent listed knits. However knitting is a method of fabric construction and does not imply a specific fiber content.

Participants also were asked why they preferred the fibers they listed. Comfort and coolness were important considerations for cotton; while polyester was preferred overwhelmingly for ease of care. Care was initially listed as most important when buying fabrics or garments.

The last question asked, "What improvements could be made to make tomorrow's fabrics better?" The most popular response was again "ease of care," specifically "permanent press" and "no iron." Almost half specifically said that cotton should be improved for no iron features. Other needed improvements
often listed included better dyes, knits that don't snag, better quality, 
more care labeling, better selection, and improved finishes. 
* Counties participating were: Anderson, Bexar, Borden, Brazoria, El Paso, 
** Percentage by total number of respondents.

Extent of Clothing Purchase Planning as a Determinant 
of Women's Satisfaction with Their Purchases of Selected Outerwear

Sally K. Francis, Miami University, Ohio 
Lois E. Dickey, The Ohio State University

This research investigated the relationship between the extent of pur­
chase planning and resultant consumer satisfaction. The study focused on women 
consumers and dress purchases for themselves.

The Deacon and Firebaugh (1975) model of the family managerial system pro­
vided the theoretical framework for the study. The dependent variable was 
consumer satisfaction; the independent variable was extent of purchase planning. 
Perceived shopping time available and purchase experience were analyzed as 
extraneous variables. The nature of the study was ex post facto research.

The methodology consisted of a consumer survey comprised of three phases: a 
preliminary telephone contact, a mail questionnaire, and a follow-up tele­
phone interview conducted eight weeks subsequent to the preliminary telephone 
contact. A random sample was selected from the telephone directory of a 
midwestern metropolitan area. Women consumers over age 18 who had purchased a 
dress during the two months prior to the preliminary telephone contact were 
eligible to participate in the study. The final sample of 210 consumers was 
divided into two groups, Care and No Care, according to whether or not the 
consumers had cared for their dresses at the time of the follow-up telephone 
interview.

Purchase planning and consumer satisfaction variables were classified 
as Instrumental, Expressive, and Market aspects according to evaluative 
criteria. A principal components analysis employing an oblique rotation was 
used as a data reduction technique. Planning factor scores were the indepen­
dent variables, and satisfaction factor scores were the dependent variables 
used in multiple regression analyses performed to test the three research 
hypotheses.

The hypothesized relationship between Instrumental planning and Instru­
mental satisfaction was not accepted for either the Care or the No Care group. 
The hypothesized relationship between Market planning and Market satisfaction 
was not accepted for the Care or the No Care group. The hypothesis of no 
relationship between Expressive planning and Expressive satisfaction was ac­
cepted for both groups. Generally, satisfaction increased with price, sale 
status, perceived shopping time, purchase experience, age, and income. Over­
all, the findings failed to support the hypothesized importance of purchase 
planning in determining women's satisfaction with their clothing purchases.
Textile Labeling: How Beneficial Is It to Selected Consumers?

Soae L. Paek, Northern Illinois University-DeKalb

There is a need to assess both the effectiveness of mandatory government regulations and the educational programs designed to increase consumer competency and assist consumers in being satisfied with goods and services purchased in the marketplace. Some professionals in the field believed that the Textile Fiber Product Identification Act of 1960 might have been superseded by the 1972 Permanent Care Labeling Rule. They suggested this study to investigate the benefit consumers derive from the fiber content requirement.

Textile educators tend to believe that consumers do benefit from fiber content information. They believe that knowing generic fiber content enables buyers to make fairly accurate price judgments related to product quality, which care labels cannot do. The accuracy of such judgments depends upon the textile knowledge and experience of the consumer.

Therefore, this study was undertaken to investigate--

1. to what extent consumers paid attention to fiber content and care labels at the time of purchase and followed the care label instructions;

2. if knowing fiber content enabled consumers to evaluate expected performance properties, durability, price related to product quality, and care requirements;

3. if selected response variables, such as knowledge of textiles, textile background, and demographic characteristics were significantly associated with buying and care practices and satisfaction derived from use and care of the textile products.

The data were obtained from a survey of 196 Cooperative Extension program participants residing in LaSalle County, Illinois. Study findings indicated that the majority of respondents checked fiber content and care labels at the time of purchase and followed care label instructions. The majority also reported that they were always able to evaluate expected textile performance properties and care requirement by knowing fiber content.

Multiple Classification Analysis revealed there were significant associations between the use of extension information, clothing/textiles instructional background, and how often respondents checked textile labels at time of purchase and followed care label instructions. Satisfaction derived from the use and care of textile products was found to be significantly associated with textile background and knowledge of textiles. Chi-square analysis also revealed numbers of statistically significant associations between the response variables investigated.

The important finding of the study to textile educators is that almost half the respondents had never taken any clothing/textiles workshops and lacked textile knowledge, especially regarding fiber performance properties and selection criteria. Since this was especially true with the participants from low income families, educators and government agencies should make special efforts to reach and educate this group of consumers.

A Promotional Success Story--Designer Jeans

Phyllis A. Ashinger, Wayne State University, Detroit, Michigan

This research presents an historical overview of consumer behavior related to an apparel item, denim blue jeans. Major buying motivations for this prod-
uct have shifted from operational to psychological satisfaction. In 1980, the designer blue jean business accounted for a 600 million dollar industry of over 200 companies. Blue jeans, once considered purely functional apparel, have become an important part of status fashion.

In this study, advertisements for blue jeans were reproduced on slides and analyzed. The products ranged from Levi Strauss jeans with "can't bust 'em seams" and the 1906 Sears Roebuck Catalogue assortments, to the latest designer fashions promoted by such names as Gloria Vanderbilt, Bill Blass, and Jordache.

Relating these advertising patterns to models of consumer behavior, it is evident that tangible features of fabric strength, reinforcement, and stitching have been replaced by styling features, social status, and sex appeal. Currently a designer name may be more important in purchase outcome than the actual product offered.

Promotional budgets changed the once lowly denim work jean to a designer fashion with mass appeal. To launch a designer jean label requires from five to six million dollars, used primarily in television advertising. Promotions provided role models, visible seasonal variations, and fantasy benefits for consumers. Marjani Industries, Ltd. increased television advertising dollars by 116% from 1979 to 1980. Designer jeans fashions moved horizontally across the marketplace with varying price lines and products. Jeans were cut for all body sizes, figure types, and age levels. Promoting the brand name, rather than the product, paved the way for diversification of products far beyond the jean line.

Well-executed marketing strategies have changed the consumer decision process related to denim jeans. Thus, the product has created some of the richest success stories in the history of apparel manufacturing.

Session C: Social, Psychological, and Cultural Aspects of Dress

Influence of Female Applicant's Mode of Dress on Interviewer's Perception of Personal Characteristics for Middle Management Positions

Sandra Monk Forsythe and Mary Frances Drake
University of Tennessee, Knoxville

This research examines whether an interviewer's perception of a female applicant for a middle-management position is sensitive to one specific aspect of the applicant's perceptual field--her mode of dress. The primary objective is to determine if there is a positive relationship between Yangness (masculinity) of the applicant's mode of dress and the desired personal characteristics attributed to her by the interviewer.

Symbolic interaction theory provides a conceptual framework for research on the role of clothing in person perception. Clothing has been found to be a significant and pervasive influence on the perception of personal characteristics. Thus, clothing is a significant part of the perceptual field within which one is located and affects how one is perceived by others. In employment interviews (first impression situations), most variables--experience, education, etc.--are controlled; however the applicant's dress is one variable that is relatively easy to manipulate. If the applicant understands the nature of the observer's responses to particular stimulus characteristics, she can
effectively use clothing to help communicate the most effective message.

Four female applicants were videotaped in each of four experimental costumes in a 45-second simulated interview situation. The independent variable, mode of dress, consisted of four costumes representing four distinct levels of Yangness. Seventy-seven personnel administrators evaluated each of the four applicants in a different costume in a systematically selected sequence.

Two blocking variables (person and costume) were used simultaneously to control the variation associated with (1) person and (2) ordering of persons and costumes. Three-way least squares analysis of variance was used to estimate the effect of costume, person, showing, and person x costume interaction on subjects' perception of the following personal characteristics: forceful, self-reliant, dynamic, aggressive, and decisive.

A positive relationship was found between Yangness of the costume and perception of each of the personal characteristics. Although the most Yang costume did not convey the personal characteristics as well as the moderately Yang costume, the more Yang costumes were clearly superior to the less Yang costumes in conveying desired management characteristics.

The effect of person was significant for the interviewers' perception of each of the personal characteristics. The influence of showing was significant for two of the personal characteristics. Also, the influence of person x costume interaction was significant for three of the personal characteristics, further illustrating the complexity of person perception.

Findings of this study show that, in addition to the influence of intervening variables, clothing does have both a positive and significant influence on the perception of desired management characteristics. Based on these findings, one may conclude that female applicants for middle-management positions should select Yang clothing in order to best convey desired management characteristics.

Attribution: Theoretical Framework for Viewing Clothed Appearances

Sarah Sweat, Virginia Polytechnic Institute and State University
Eleanor Kelley, Louisiana State University

ACPTC-Central Region recognized theory building in a special interest group during the 1979 meeting. The purposes of our report are to note a conceptual blind spot, propose a root discipline concept to alleviate this gap, and present situational data to illustrate the usefulness of this concept.

Appearance has been treated as dressing for a single role or single situation (1,2,3). Yet single situation preparation is less likely with multiple role involvements in urban life. Diversity of multiple roles may create a difficult manipulative task for the actor--the task of dressing for several roles with different norms.

Sociologists recognize the difficulty in meeting the demands of multiple roles. Some suggest that role strain is normal, and actors find ways to minimize role conflict (discrepent expectations) and role overload (time pressures) (4). Dress may either assist or retard one's ability to minimize role conflict.

Attribution theory is appropriate for the study of multiple role dressing. One aspect, correspondent inference as developed by Jones and Davis, has been described as treating the perceiver as a highly disciplined information processor (5). We suggest that information processing includes evaluating clothed appearances.
A basic tenet of attribution theory is that the perceiver believes the actor had a purpose in performing the action. Yet, the actor need not be conscious of the intent for dispositional attribution to transpire. Implicit in correspondent inference is the idea that the actor always has a choice between courses of action. Moreover, the perceiver does not have to witness an act in order to infer an underlying disposition of the actor from the effects of the acts (6).

Free response data, drawn from studies of adolescents and adults in settings such as school and employment, illustrate how perceivers process appearance information: 1) Perceivers can recognize the actor's problems—and even sympathize with them—in manipulating attire prior to entering a situation. 2) Information processing occurs as observers evaluate the appearance of a person who appears before them; subsequent judgements are made about the person's roles and the appropriateness of attire for the observed role. 3) The perceiver does not need to witness the act of dressing to make inferences about the actor based upon attire. 4) The perceiver has the ability to recognize that the actor may have compromised in selecting attire for the visible situation in order to be adequately attired for other encounters during the course of a day.

References:
6. Ibid., 44-45, 65.

Comparison of Sex-Typed and Androgynous Male and Female Fashion Leaders

Holly L. Schrank, University of Kentucky
Alan I. Sugawara, Oregon State University

Research demonstrates that highly sex-typed individuals are motivated to keep their behavior consistent with internalized sex-role standards by suppressing or inhibiting behaviors believed to be more consistent with those associated with the opposite sex. Recently, Bem (1974) has suggested that there are many individuals who are not sex-typed, but androgynous. These men and women are hypothesized to be characterized by both "masculine" and "feminine" behaviors. Few empirical studies of androgynous individuals have been conducted, and none were found that examined the fashion leadership behavior of sex-typed and androgynous males and females.

Data were collected from 223 college student respondents in a classroom setting using a questionnaire format. Variables included in the study were...
attitudes-toward-change, fashion innovativeness, fashion opinion leadership, and sex role profile. Bem's Sex Role Inventory (BSRI) (1974, 1977) was used to gather data necessary for constructing sex role profiles and categorizing each respondent as sex-typed or androgynous.

The Fashion Opinion Leadership Scale developed by Schrank & Gilmore (1973) was modified slightly for use in this study, and an 11-item Likert scale was developed to assess the extent to which respondents held relatively positive or negative attitudes-toward-change (ATC).

During 1977, clothing fashion was similar in many ways for men and women, so a measure of adoption of new clothing items and practices that was asexual in nature was constructed. The fashion innovativeness measure (FI) consisted of a list of 14 new items of apparel or new wearing practices that were available to, promoted for, and practiced by college men and women in the Pacific Northwest. The list was evaluated by retail store buyers.

For the preliminary analysis reported here, analysis of variance and chi square were employed to suggest areas of difference and commonality between sex-typed and androgynous subjects. Eighty-two males and 141 females participated in the data collection.

Significant differences occurred between sex-typed and androgynous individuals only for ATC scores. When androgynous individuals were compared to sex-typed feminine and to sex-typed masculine subjects, differences became apparent. However, the difference in ATC scores appears to be primarily between the two female sex-typed groups rather than between females and males or androgynous versus sex-typed groups.

No significant differences were found for FI or FOL scores when sex-typed individuals were compared to androgynous individuals. When sex-typed feminine respondents were compared to sex-typed masculine and to androgynous individuals a moderate F value resulted. Further analysis indicated the difference again was occurring primarily between sex-typed masculine females and sex-typed feminine females, rather than between androgynous respondents and sex-typed respondents.

Four fashion leadership groups were constructed based on scores for FI and FOL measures: innovators (high-low), innovative communicators (high-high), opinion leaders (low-high), and non-leaders (low-low). Androgynous and sex-typed individuals did not differ in their distribution among the four leadership categories. When male sex-typed respondents were compared to female sex-typed respondents, there were no significant differences in distribution among fashion leadership groups. Differences were found between male androgynous respondents and female androgynous respondents, suggesting that fashion leadership behavior differs in type and/or degree between these two androgyny groups.

Further analysis of the data is planned to explore possible explanations for the results reported here and to use a second scoring method for the BSRI that further separates androgynous individuals from those who are undifferentiated in sex role profile.

References:


Modes of Symbolism in Nineteenth-Century Korean Silk

Yoon-Hee Kwon, Northern Illinois University-DeKalb

One of the most distinctive features of Korean silk design is the symbolic nature of its expression. Korean symbolism in silk design can be broadly classified into the expression of man's basic wishes for happiness, longevity, wealth, and numerous progeny. In expressing these basic wishes, Korean artists adopted several different means of expression.

One way of expressing an idea consists of writing the words for it. For instance, the character su, meaning longevity, is one of the most important decorative motifs in ceramics, porcelains, and silk textiles.

The second means of expression is through a symbol with which there is an association of ideas; thus a gold ingot represents riches; a book, learning or knowledge; a pomegranate, with its many seeds, numerous descendents.

The third means of expression consists of indicating words by using images that suggest word pronunciation, similar to a rebus. As an example, the procedure of the pun brings us the bat whose name, bok, is pronounced like the word bok, which means happiness. In order to express the meaning of happiness, the image of a bat is used in place of the character for happiness.

The objective of this investigation is to identify the three different modes of symbolic expression mentioned above in a group of selected nineteenth-century Korean silk fabrics.

Data were collected from three university museums and three silk manufacturers in Seoul, Korea in 1975. Black and white photographs were taken for the purpose of analysis. The photographs of silk samples were classified according to the three different modes of symbolic expression: (1) Chinese character only, (2) Symbol Type I--an image with which there is an association of ideas (ex: pomegranate, numerous descendents), and (3) Symbol Type II--substituting words by using images that suggest the pronunciation of other words (ex: using a bat image in place of the word bok, meaning happiness).

After examining the silk samples, the following combinations of expressive modes were discovered:

(1) Chinese character only, and variations (more than one type and/or form of character).
(2) Chinese character plus Symbol I, and variations (more than one symbol and/or one type of form or character).
(3) Chinese character plus Symbol Type II, and variations (more than one symbol and/or one type of form or character).
(4) Chinese character plus Symbol Type I and II, and variations (more than one symbol for each type, and/or more than one type or form of character).
(5) Symbol Type I and II, and variations (more than one symbol for each type).
(6) Symbol Type I, and variations (more than one symbol).
The purpose of this study was to explore possible relationships among selected factors that may affect the perception of thermal comfort in the home environment. The use of clothing in maintaining thermal comfort was of primary interest. The conceptual framework for the study suggests that three broad categories of factors may affect an individual's perception of thermal comfort. These categories are environmental, psychological, and physiological.

A field survey exploring selected factors from each of these categories was conducted through interviews and observations in 26 households. A total of 50 people were interviewed. An interview schedule and an instrument for recording observations were developed. In addition to factors established by other investigators as having an effect on the perception of thermal comfort, a number of exploratory items were included in the instruments.

Because the primary objective of the study was to explore relationships, the data were analyzed by groups of variables. Two-way frequency tables were generated for gross comparisons. The chi square test for probability of relationship and discriminant function analysis were applied to each grouping of variables.

Although the small size of the group studied and its restricted geographical location limit the applicability of the findings to other populations and locales, two broad conclusions were reached. The first was that many factors other than those that traditionally have been studied affect the perception of thermal comfort in the home environment. The second was that attitudes may affect both actions and perceptions related to thermal comfort.

Within the study population several interesting relationships were found that warrant attention in future studies. A significant relationship was seen between the physical characteristics of the participants and the temperature maintained in the home, although no relationship was found between physical characteristics and the perception of thermal comfort. A difference was found between the response of men and women toward achieving thermal comfort with men more likely to turn up the heat and women more often putting on more clothing.

The insulation value of clothing usually worn indoors during the winter was estimated for each participant. Slender people were found to wear clothing with low insulation values while participants classified as heavy were more likely to wear clothing with higher insulation values. The insulation value of clothing worn and the perception of thermal comfort is not clear in this study. The insulation value of clothing being worn during the interview appears to affect the reported feeling of thermal comfort in other conditions. The insulation value of clothing described as ordinarily worn during the winter was not found to be statistically related to the reported perception of thermal comfort. Further study is needed to determine the significance of current conditions on memory of earlier conditions.

Several statistically significant relationships were found between individual variables, such as the room temperature and the perception of thermal comfort, but only one group of variables appears to be useful as an indicator group. The physical characteristics of the occupants of a household can be used to predict the thermal conditions that will be maintained within the
The physical characteristics group includes the age category, sex, body type, blood pressure category, and body temperature category.

*Research conducted at the University of Tennessee, Knoxville

Thermal Insulation Characteristics of Textile Drapery Fabrics

Helen H. Epps, University of Georgia, Athens
Bhuvenesh C. Goswami, University of Tennessee, Knoxville

The purpose of this study was to determine what fiber, fabric, and constructional properties of draperies are associated with high thermal insulation values at different levels of relative humidity. Four factors associated with the drapery fabrics (fiber type, color, fabric openness, and lining type) and three factors related to the drapery design (drapery fullness, lining fullness, and the spatial configuration of the lining and drapery) were investigated. An eighth independent variable, relative humidity, also was included in the study. The dependent variable was the heat flow through the drapery at a temperature differential of 20 degrees F.

Transmittance of drapery models representing all possible combinations of the selected levels of the eight independent variables were measured on a standard window equipped with a heat sensor device connected to a computer. Transmittance readings were printed at three-minute intervals. Draperies were left on the window until five readings were made after equilibrium was reached in approximately one hour. The computer also monitored the room temperature, the temperature differential of the window, and the relative humidity of the room.

The physical properties of moisture regain, reflectance, thickness, weight, air permeability, porosity, and drape of each of the fabrics were measured to determine relationships between these properties and the heat transmittance of the drapery.

Single thicknesses of eight drapery fabrics and two lining fabrics were tested for insulation value at two relative humidity levels, 45% and 65%. Analysis of variance showed the following factors to be significant: fiber type, weave openness, and relative humidity. Color was not significant.

The four light-colored drapery fabrics were tested in layered combinations with a lining fabric at the two relative humidity levels. Two levels of drapery fullness (50% and 100%), three levels of lining fullness (flat, 50% and 100%) and three levels of lining-drapery spatial separations (touching, ½", and 1") were tested. Fabric, lining fullness, drapery fullness, spatial configuration, and relative humidity were found to be significant.

Additional analysis, which included the physical properties of the drapery fabrics, revealed several regression models for predicting the insulation value of the draperies. Although many of the factors were found to be significant, variables were eliminated from the models in a stepwise procedure. Analysis showed that 98% of the variation in heat transmittance in the single-layer fabrics could be predicted by relative humidity and air permeability, and that 92% of the variation in heat transmittance of the multiple fabric configurations could be predicted by relative humidity, air permeability, and lining fullness.
The Effects of Daylight on Upholstery Textile Performance

Sara Butler and Denise Guerin, Miami University, Oxford, Ohio

As energy costs escalate, increasing attention is being paid to the use of the "free" power of the sun, both in specially designed homes and in conventional residences. The results of these practices is the exposure of interior textiles to large amounts of sunlight. This study was designed to investigate the effects of exposure to daylight on currently available upholstery textiles.

Using a July 1979, Home Furnishings Daily Style Survey as a guide, 11 upholstery fabrics were selected for testing (Table 1.) The test fabrics were exposed to light in two outdoor cabinets for a six-month period.

TABLE 1. FABRICS

1. 100% cotton dobby double cloth
2. 65% rayon/23% polyester/12% acetate jacquard
3. 100% nylon basket weave
4. 100% cotton chintz
5. 65% rayon/35% cotton dobby
6. 100% olefin chain-stitch
7. 100% nylon plain weave print
8. 100% olefin twill
9. acrylic face/cotton back velvet
10. rayon face/cotton back velvet
11. 100% cotton velvet

The cabinets were equipped with double-glazed glass, faced due south, and sloped at a 45° angle. The exposure period was from October 15, 1980 to April 15, 1981, a period considered to cover the heating season in the southern Ohio climate.

Four test specimens and four control specimens were tested for tensile strength, elongation, abrasion, color loss, thermal conductivity, and light reflectance. All specimens were preconditioned in a laboratory oven and conditioned in a Tenney Environmental Chamber. Tensile strength and elongation were measured using a Scot Tester. Abrasion was measured by weight loss after fabrics were subjected to abrasive forces in an Accelerotor. A panel of judges evaluated color loss using the International Geometric Gray Scale. (Thermal conductivity and light reflectance results are not yet available.)

Two-way analysis of variance was employed to examine overall differences among fabrics, test and control differences, and interactive effects. Significant differences were found between fabrics and test/control specimens at the .001 level for warp and filling tensile strength, warp and filling elongation and abrasion. All interactive effects were also significant at the .001 level.

Follow-up t-tests provided more detailed information. Fabrics 1, 2, 3, 4, 6, 7, 8, and 11 experienced significant strength losses in both warp and filling directions. Fabric 5 lost strength in the warp direction only. Only Fabrics 9 and 10, both velvets, exhibited no significant strength loss after exposure. Warp elongation decreased significantly in Fabrics 3, 4, 6, 7, and 8 and filling elongation decreased significantly in Fabrics 6, 7, and 9. Fabric 5 experienced a significant increase in elongation. Fabrics 1, 3, 4, 5, 6, 7, 9, and 11 experienced significant abrasion resistance losses. Only Fabric 6 received a Gray Scale
rating of 5, indicating no color loss. Fabrics 1, 3, and 11 received ratings below 2, or noticeable color loss.

The investigators concluded that no one fabric could be considered totally acceptable, although results indicate that some fabrics fared better than others. More information must be provided to passive solar residents to enable more informed decision making based on individual needs.
ASSOCIATION OF COLLEGE PROFESSORS OF TEXTILES AND CLOTHING

Minutes of Central Region Business Meeting
St. Louis, Missouri
29 October 1981

I. The meeting was called to order by President, Patricia Horridge, at 11:00 a.m., at the Chase Park Plaza in St. Louis, Missouri.

II. Dr. Horridge introduced the officers for the 1980-81 term:

President: Patricia Horridge, Texas Tech University
President Elect: Mary Littrell, Iowa State University
Secretary: Imogene Ford, University of Tennessee
Treasurer: Mary Littrell, Iowa State University
Council Members at Large: Betty Wass, University of Wisconsin-Madison
Marilyn DeLong, University of Minnesota
National Executive Board:
Charlotte Bennett, Morehead State University
Martha Jenkins, Western Kentucky University
Mary Don Petterson, Kansas State University
First Alternate to National Executive Board:
Agatha Huepenbecker, Iowa State University
Second Alternate to National Executive Board:
Esther Meacham, The Ohio State University

III. The minutes of the 1980 business meeting were distributed by the Secretary, Imogene Ford. Geitel Winakor corrected a mistake. Gloria Williams moved to accept the minutes with this correction; Laura Dunn seconded the motion. The membership voted to accept the minutes.

IV. Mary Littrell, Treasurer, distributed the financial statement:
Balance on Hand $666.58
Scholarship and Publication Fund $600.00
Juried Art Show Fund $598.65

Coila Janecek moved to accept the report; Audrey Newton seconded the motion. The Treasurer's report was approved by the membership.

V. Reports of the 1981 ACPTC-CR Committees were presented:

A. Membership Committee: Lynne Richards reported that 400 CR members had been identified, as the result of an active membership recruiting effort. CR
membership at present is 187; with a projected membership of 375, an increase of new members of 34%. Members of the Committee were: Lynne Richards, (Chairperson), Janice Briggs, Mary Frances Drake, Jane Farrell, Mary Otis, Audrey Newton, Soae Faek, Marion Jernigan, Coila Janecek, Joyce Smith, and A. D. Ostapovitch.

B. By-Laws and Handbook Committee: Betty Wass reported that the proposed changes to the ACPTC Bylaws were approved with 92% of those voting casting their vote for all recommended changes. Comments on the ballots will be given to the Chairperson of Bylaws and Handbook committee for 1981-82. No changes were made in the handbook this year. Members of the Committee were: Betty Wass (Chairperson), Joan Laughlin, Barbara Schlinkert.

C. Nominating Committee: Marilyn DeLong reported that the results of the Spring 1981 election were as follows:

- President-elect: Mary Littrell, Iowa State University
- Treasurer: Nelma Fetterman, University of Alberta
- Member at Large: Ruth Marshall, Iowa State University
- Alternate to Council: Gloria Williams, University of Minnesota
- National Executive Board Representative: Geitel Winakor, Iowa State University
- Alternate to National Executive Board: Ardis Rewerts, The University of Texas at Austin

Members of the Committee were: Marilyn DeLong (Chairperson), Robert Hilstead, and Ardis Rewerts.

D. Fellowship Committee: Martha Jenkins reported that the fellowship committee revised application materials developed last year; selected the 1981-82 fellowship recipient; and made recommendations in regard to application materials and procedures for future use. Eight applications for the fellowship were received; four of these applications were complete. The recipient of the 1981-82 fellowship is Sara Douglas. Members of the committee were: Martha Jenkins (Chairperson), Esther Neacham, and Imogene Ford.

Patricia Horridge, President, introduced Sara V. Douglas, a candidate for the Ph. D. at the University of Illinois.
VI. Reports of Other ACPTC-CR Committees:

A. ASTM Liaison. Coila Janecek reported that ACPTC representatives to the ASTM meeting in Philadelphia, October 12-14, 1981 were Marjory Joseph (Western Region), Carol Warfield (Eastern Region), and Coila Janecek (Central Region).

B. Flammability (D13.52). An effort is being made to (1) develop a small scale flammability test for curtains and draperies that would correlate with the large scale test currently being used; (2) make the mannequin tests more reproducible; and (3) identify problems involved with the use of Upholstered Furniture Action Council Fabric classification test as a standard test method.

2. Consumer Product Performance (D13.54). Revision of Permanent Care Labeling Trade Regulations. Terminology to be used for care labeling of carpets and rugs is being drafted. The committee asked for volunteers from ACPTC to provide input. An Apparel Sizing Task Group agreed to complete a first draft of standard body measurements for use in sizing children's apparel.

3. Performance Standards For Textile Fabrics (D13.56). Performance standards for textile fabrics in end use will be published by ASTM.

Dr. Ernest Kaswell, Albany International Research Company, was awarded the Harold DeWitt Smith Award.

B. Newsletter Editor-Central Region: Gloria Williams thanked the membership for the submission of articles for the newsletter. The committee received 80 items for review.

C. Newsletter Editor-National: Deanna Munson indicated the concept of the newsletter would change with the advent of the Journal. Members of ACPTC will receive a letter mid-November requesting that a report of on-going research be identified. Deadline for submission is January 11, 1982. A calendar of events will be published in May for 1982-83. Universities, Businesses, and Industry will receive a notice.

D. Fiber Art Juried Exhibit 1982: Ardis Rewerts urged members to submit entries for the exhibit to be held in the Goldstein Gallery, Minneapolis, for one month. Graduate students and Faculty in T&C may submit works.
Deadline for entry is August.

E. **Historian**: Patricia Horridge reported that the appointment of a historian had been evaluated and the importance of the position defined. Central Region did not have a person designated as historian. Patricia Horridge will serve as historian.

VIII. Old Business:

A. **Sites and Dates of Future ACPTC Conferences.**

1982: October - Minneapolis, Minnesota  
1983: July - Hawaii (National Meeting)  
1985: Iowa State University,  
1986: Houston, Texas (National Meeting)

B. **ACPTC-CR 1982 Conference.** Betty Wass, program chairperson, reported that the 1982 ACPTC-CR conference will be held at the North Star Hotel, in Minneapolis, Minnesota. The theme will be DESIGN. A discussion ensued relative to the change in the meeting dates from a Wednesday-Friday sequence to a Thursday-Saturday sequence.

C. **Publications**: Martha Jenkins, CR representative, reported on the committee charge for the ACPTC publication. The first issue is to be published 1982-83. Committee members: Joann Boles (Chairperson-ER Representative); Judy Flynn (Newsletter Editor); Nancy Owens (Western Region); Loy Walton (Newsletter Mgr. Ed.); Martha Jenkins (Central Region).

IX. New Business.

A. **Program of Work for 1982-83.** Incoming President, Mary Littrell, outlined the directions for ACPTC-CR. These included the following goals:

1. Encourage Council and membership contributions in planning for the **Clothing and Textiles Research Journal**.

2. Establish long range plans for the Central Region Scholarship and Publications Fund. Address future funding of the ACPTC-CR Fellowship and the **Clothing and Textiles Research Journal**.

3. Plan for future regional and national membership.
surveys. Address regular updating of members' interests in committees and offices and uses for subject matter information.

4. Facilitate mounting of the first ACPTC juried exhibit of fiber art at the 1982 Regional conference.

5. Clarify Research Committee procedures for selecting committee members, soliciting papers, reviewing abstracts, and lively reporting of research at regional conferences.

6. Encourage sharing of innovative teaching methods, fiber art talents, and research expertise through

   a) contributions to the ACPTC newsletter,
   b) participation in a possible resource exhibit at the 1982 conference,
   c) submission of fiber art for the juried fiber art exhibit at the 1982 conference and
   d) submission of research for presentation at the 1982 conference.

B. Outgoing President's Remarks. Patricia Horridge expressed her appreciation and thanks to the membership.

X. The 1981 ACPTC-CR Business Meeting adjourned at 12:15 p.m.

Respectfully submitted,

Imogene Morrow Ford
Secretary, ACPTC-CR
ASSOCIATION OF COLLEGE PROFESSORS OF TEXTILES AND CLOTHING, INC.

CENTRAL REGION

ANNUAL FINANCIAL STATEMENT

November 1, 1980 - October 31, 1981

Submitted by: Mary Littrell, Treasurer

I. GENERAL FUNDS (First National Bank, Fargo, ND)

<table>
<thead>
<tr>
<th>1981 BUDGET</th>
<th>RECEIPTS</th>
<th>1981 RECEIPTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$805.28</td>
<td>Balance on hand from 1980 fiscal year</td>
<td>$805.28</td>
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<tr>
<td>2775.00</td>
<td>Membership dues (1981)</td>
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</tr>
<tr>
<td></td>
<td>projected: 300 @ $8.00</td>
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<tr>
<td></td>
<td>75 @ $5.00</td>
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<tr>
<td></td>
<td>actual: 300 @ $8.00</td>
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<tr>
<td></td>
<td>73 @ $5.00</td>
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</tr>
<tr>
<td></td>
<td>(dues through 8/16/81)</td>
<td>2765.00</td>
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<td>15.00</td>
<td>Back dues (1980)</td>
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$3580.28 TOTAL RECEIPTS $3585.28 $3585.28

DISBURSEMENTS

<table>
<thead>
<tr>
<th>1981 Budget</th>
<th>Budget Category</th>
<th>1981 Disbursements</th>
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<tr>
<td>$1200.00</td>
<td>Joint Proceedings</td>
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<td>1000.00</td>
<td>January Planning Mtg.</td>
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<td>25.00</td>
<td>Nominating Committee</td>
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<tr>
<td>200.00</td>
<td>Membership Committee</td>
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<tr>
<td>10.00</td>
<td>By-Laws and Handbook</td>
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<tr>
<td>545.00</td>
<td>President's Expenses</td>
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<tr>
<td>250.00</td>
<td>Secretary's Expenses</td>
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<td>45.00</td>
<td>Treasurer's Expenses</td>
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<td>200.00</td>
<td>ASTM Representative</td>
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<tr>
<td>105.28 (3%)</td>
<td>Contingency (no more than 15% of total disbursements)</td>
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<td></td>
<td>Advance to Conference Registration Committee</td>
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$3580.28 TOTAL DISBURSEMENTS $2918.70 $2918.70

BALANCE ON HAND (October 31, 1981) $666.58
II. SCHOLARSHIP AND PUBLICATIONS FUND

A. Fund Working Account (Hawkeye Savings and Loan, Ames, Iowa)

RECEIPTS

<table>
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<tr>
<th>Balance on hand October 31, 1980</th>
<th>$ 517.90</th>
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<tr>
<td>Interest from Money-Market Certificate through September 25, 1981</td>
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TOTAL RECEIPTS $1786.11

DISBURSEMENTS

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<tr>
<td>2nd Installment, 1980-81 Fellowship</td>
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<tr>
<td>1st installment, 1981-82 Fellowship</td>
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<td>Invest interest on new Money Market Certificates 9/8/81</td>
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<tr>
<td></td>
<td>131.67</td>
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TOTAL DISBURSEMENTS $1186.11

BALANCE ON HAND (October 31, 1981) $600.00

B. Investments (Hawkeye Savings and Loan, Ames, Iowa)


III. JURIED ART SHOW FUND (Ames Savings and Loan, Ames, Iowa)

In preparation for a juried fiber art show to be held at the October, 1982, Central Region Conference, $500.00 was invested on April 1, 1980, in a 2½ year treasury certificate with 12% annual rate of interest. The certificate will mature on September 30, 1982.

Account Status on September 30, 1981: $598.60

MEMBERSHIP STATEMENT

<table>
<thead>
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<th>August 16, 1981:</th>
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<tr>
<td>Active</td>
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<td>Reserve</td>
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<tr>
<td>Graduate Student</td>
<td>46</td>
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</table>

TOTAL 373
Eastern Region
ACPTC-ER EXECUTIVE BOARD

November 1, 1980 - October 31, 1981

Dr. Barbara M. Starke, President
Dr. Fran Duffield, President-Elect
Dr. Jane Lamb, Secretary
Dr. Leatha A. Darden, Treasurer
Ms. Nora MacDonald
Dr. Judy Flynn
Dr. Phyllis Tortora, Past-President and ACPTC-ER Rep. to National
Dr. Joann Boles, ACPTC-ER Rep. to National
Ms. Loy Walton, ACPTC Executive Director

ACPTC-ER Local Arrangements Chairpersons 1980-81
Mr. Grant Greapentrog
Ms. Fran Mayhew

Committee Chairpersons

Dr. Mary Barry, Chairperson, Public Relations
Dr. Jeanette Bowker, Co-Chairperson, Membership
Dr. Joanne Boles, Chairperson, ACPTC Journal
Ms. Nora MacDonald, Co-Chairperson, Membership
Ms. Arlene Handschuch, Chairperson, Newsletter
Dr. Carol Warfield, ACPTC-ER ASTM Representative
Dr. Lois Gurel, Chairperson, Proceedings
Dr. Jessie Warden, Chairperson, Nominating Committee
Miss Karen Schaeffer, Co-Chairperson, Hospitality
Dr. Lynne Levy, Co-Chairperson, Hospitality
Dr. Amelia Adams, Chairperson, Evaluation Committee
Dr. Phyllis Tortora, Chairperson, By-Laws
Dr. Judy Flynn, ACPTC-ER Archivist
Dr. Jo Paoletti, Chairperson, Research
ACPTC Eastern Region Conference  
October 21-24, 1981  
University Hilton Hotel  
Philadelphia, Pennsylvania

Wednesday, October 21
8:00-11:00 a.m. Executive Council Meeting
9:00-11:00 a.m. Registration  
Coordinator: Dr. Leatha Darden, University of Alabama
11:00 a.m. Departure for Winterthur  
Coordinator: Mrs. Fran Mayhew, University of Delaware
8:00-10:00 p.m. Registration  
Wine and Cheese Reception

Thursday, October 22
8:00 a.m.-12:00 noon
Registration
9:00 a.m. Welcome to ACPTC Eastern Region Annual Meeting  
Dr. Barbara M. Starke, President, ACPTC-ER, Howard University
9:15-10:15 a.m. Textile Update--1982  
Mr. Daniel Powderly, Director of Marketing, Springborn Testing Group (CT); President, Technical Advisory Group (N.Y.C.)  
Coordinator: Dr. Fran Duffield, Auburn University
10:45 a.m.-12:00 noon
Fashion Merchandising Education: A Dialogue with Retailers  
Panel Members:
Mr. Timothy J. Corcoran, Manager of Executive Recruitment and Placement, Strawbridge and Clothier, Philadelphia
Ms. Beth Miller, Director of Executive Development, Gimbel Brothers, Philadelphia
Ms. Amy Rauchman, Director of Executive Recruitment and Placement, John Wannamaker, Philadelphia
Dr. Mary Barry, Auburn University
Ms. Jacqueline Starr, Cheyney State College
Ms. Ruth Weibel, West Virginia University  
Moderator: Dr. June F. Mohler, Dean, School of Consumer Science, Winthrop College
12:15-1:45 p.m. Luncheon  
Fashion Goes to Press  
Ms. Phyllis Feldkamp and Ms. Renee Weiss Dilkes, Fashion Editor and Asistant to Editor, The Philadelphia Bulletin  
Coordinator: M. Dolores Quinn, Drexel University
2:00-3:00 p.m. Business Meeting  
Presiding: Dr. Barbara M. Starke, Howard University
3:15-4:15 p.m. Art Fabric: Mainstream  
Mr. Jack Lenor Larsen  
Coordinator: Dr. Jeanette Bowker, VPI & State University
Friday, October 23

8:00-10:00 a.m. Registration

9:15-10:15 a.m. Future Directions for ACPTC

Coordinator: Dr. Judith Zaccagnini Flynn, Teaching, Framingham State College

Participants:
Dr. Joann Boles, Research, VPI and State University
Dr. Mary Helen Marshall, Extension--New Initiatives, VPI and State University
Dr. Fran Duffield and Dr. Carol Warfield - A Theoretical Framework to Advance Clothing and Textiles to the Forefront - Auburn University

11:00 a.m.-12:45 p.m.

Research Sessions

Session A
Presiding: Dr. Jo Paoletti, University of Maryland

11:00-11:20 a.m. Queen Victoria: A Sampler and a Lace Habit Shirt - Galor M. Edgeworth, The Florida State University

11:25-11:45 a.m. A Design for Research: The Middletown Weavers - Clarita Anderson, University of Maryland

11:55 a.m.-12:15 p.m.

The Clothing of the Central Appalachian People, 1925-1935 - Rita S. Purdy, Virginia Polytechnic Institute and State University

12:20-12:40 p.m. Analysis of Greek Women's Chemises in American Collections - Linda M. Welters, University of Rhode Island

Session B
Presiding: Dr. Kathy Jansen, Howard University

11:00-11:20 a.m. Use of Electric Blankets and Other Bedding Materials to Conserve Energy - Robert S. Merkel, Florida International University

11:25-11:45 a.m. Home Sewing by Adolescents: Variables Affecting the Amount of Sewing and the Decision to Continue Sewing - Phyllis Maria Koontz, Virginia Polytechnic Institute and State University

11:55 a.m.-12:15 p.m.

Development of an Analytical Electron Microscopy Technique to Study Removal of Oily Soil from Textile Fabrics and Fibers - S. Kay Obendorf, Cornell University

12:20-12:40 p.m. Survival of Cellulosic Fibers in the Archaeological Context - Kathryn A. Jakes and Lucy R. Sibley, University of Georgia

Session C
Presiding: Dr. Jane Lamb, University of Delaware

11:00-11:20 a.m. Pressure Analysis as the Basis for Improved Design of Nursing Brassieres - Anastasia V. Costantakos, Cornell University

11:25-11:45 a.m. Laboratory Measurement and Evaluation of Thermal and Selected Comfort and Durability Properties of Twelve Textile Fabrics Intended for Indoor Wear in the Winter - Barbara Scruggs, University of Rhode Island

11:55 a.m.-12:15 p.m.

Serviceability of Velcro® and Gripper Snap Closures on Clothing for the Mentally Retarded and Handicapped - Theresa M. Hewett, East Carolina University
12:20-12:40 p.m.  Body Movement Analysis as the Basis for the Design of Garments for People in Wheelchairs - Gret Atkin, Cornell University

1:00-2:15 p.m.  Luncheon
Informal discussions on topics of morning sessions
Tables will be designated for discussion of specific topics

2:30-4:00 p.m.  Professional Development
Panel Members:
Dr. Carol E. Avery, Department of Clothing and Textiles, Florida State University
Dean Ruth Galbraith, College of Home Economics, Auburn University
Dean S. J. Ritchey, College of Home Economics, Virginia Polytechnic Institute and State University

Moderator:
Dr. Phyllis Tortora, Department of Home Economics, Queens College

Topics:
Tenure: From the Point of View of the Tenure Review Committee
Upward Mobility in the Profession
Publish or Perish
Time for questions will follow

4:00-5:00 p.m.  Grants Seminar
Panel Members:
Dr. Prisuta, Deputy Director, NTRA-AARP Andrus Foundation, Research Related to the Elderly
Mr. Roger Gilbertson, International Trade Administration, Domestic Apparel Program

Information from the March of Dimes Foundation
Safety in Workplace and for the Handicapped

Information on other funding sources
Coordinators:
Dr. Joanne Boles, VPI and State University
Dr. Janie Lamb, University of Delaware

8:30-10:30 p.m.  Juried Poster Session Research Reporting
Coordinator:
Mrs. Nora MacDonald, West Virginia University

The following posters will be presented:
Cunningham, Flora E. Clothing Design Complexity Preferences of Preschool Children. Rutgers University, N.J.
Garner, Robin Lynne and Watkins, Susan M. Pressure Analysis as a Basis for Designing a Business Suit Jacket for Bicycle Commuters. Cornell University, N.Y.

MacDonald, Nora M. and Huffman, Vera J. Evaluation of Sewing Machines for the Blind. West Virginia University.

Matthews, Mary Alice. Instant Textile Design. The Florida State University.


Merkel, Robert S. Clothing and Textiles Index. Florida International University.

Yadav, Geneva; Hewett, Theresa and Minter, Barbara. Normalized Clothing Designed for the Institutionalized: Severely Mentally and Physically Handicapped. East Carolina University, N.C.

Saturday, October 24
9:00-11:30 a.m. The Interaction of Design, Fabric and Construction: Workshop Demonstration and Fashion Show
Speaker: Mr. Charles Kleibacker, Couturier
Coordinator: Mr. Grant Greapentrog, Drexel University

1:00- 3:00 p.m. Executive Council Meeting
TEXTILE UPDATE--1982

Daniel Powderly
Director of Marketing, Springborn Testing Group
President, Technical Advisory Board (TAG)

The American textile and apparel industries are amazing. After being considered passé, they came back with new technology, fashion innovation, and major commitments of capital.

Imports/Exports. As this is being written, the dollar has strengthened and the European economy is in the doldrums. This has dulled a very strong export textile trade for American mills and converters. Broadwoven fabric exports are still good, even though they are off by about 50 percent from the previous year. We are the world's leading producer and exporter of denim and corduroy fabric and can undersell and out-produce any other nation. Fiber exports to China continue, with polyester the major product. Carpet exports to Europe, which have been strong for about three years, have suffered a setback. The point is that America can be competitive in a worldwide textiles market even under adverse conditions.

We export $7.5 million worth of textile fibers and fabric and import only $4.8 million, but we import far more finished apparel products ($6.4 million) than we export ($1.2 million). We are at a disadvantage in the labor intensive areas. The industry is now pressuring the President to limit imports under the next round of GATT and MFA international agreements. Imports may now grow at a 7 percent annual rate, regardless of the growth of the American market. We hope that imports can be held to a constant share of the market so that the American apparel industry can survive.

The American Market. In general, American fiber producers, mills, and apparel manufacturers have enjoyed several good to very good years. Labor costs have risen less rapidly than in other countries, and raw material costs have been relatively lower. As the dollar was depressed, we were competitive and held or improved our share of the American market.

At the moment there is confusion in the market. One major organization, Brewco, has filed for a Chapter 11 bankruptcy. They will try to sell off $45 million worth of merchandise and settle with their creditors, possibly for as little as 25¢ on the dollar. The repercussions through the industry can be severe.

Man-made fiber prices have been increasing, but it is believed that discounts are available again. Cotton is hitting new lows with respect to price. A good crop is expected, and it is felt that the off-take will be less than normal.

Fiber sales are reasonably good, but fabric sales are in the doldrums. Consumer spending is increasing, and we hope there will be a turnaround in the domestic market. The feeling is that inventories are low and any strength at retail will require substantial replenishment.

In 1974, the average inventory was an 11-month supply. By 1978, this was reduced to an 8-month inventory. In 1981, we now estimate we are at a 6-month inventory level, which is well below what is considered normal.

Status of New Fibers. New fibers are entering the industrial market, but nothing new is expected for apparel. Carbon fibers, made from acrylic or rayon, are becoming important as structural fibers for rigid composites—such as turbine blades. Used in the body of a Lear jet, it reduces the weight of the frame by 30 to 40 percent. Carbon fibers also are being used as the core of nylon yarns to produce anti-static carpets. The price of carbon fibers has
come down to $18 to $20 a pound from its original $400 a pound price. Kevlar (aramid fiber) from DuPont also competes in the industrial markets because of its high modulus and other properties. These fibers are finding new markets because they offer significant reductions in weight, along with very high strength values.

In the last few years, high filament count fibers have become more important in apparel as they can be used to create softer, more fluid fabrics. Fibers with micropores offer greater moisture absorbency, but they have not found significant market acceptance. Reduction of polyester fiber by a caustic treatment, which was originally used in Japan, is now being used in the United States. It gives a more silk-like hand and appearance to polyester fabrics.

Olefin is becoming the major growth fiber. Amoco Fibers and Hoechst are investing in new plants and equipment to satisfy the carpet-backing and upholstery fabric markets. New, finer deniers are being used in velvets and more luxurious upholstery products. A greater range of color is now being offered.

Weaving Developments. Huge investments in new equipment have made America very competitive in several woven fabric areas. Over the last 10 years, $1.7 billion have been invested in shuttleless looms. Each new shuttleless loom has replaced more than three older looms. This has created more efficient production but has not increased the total amount of fabric produced. By mid-1981, it is estimated that 54,000 shuttleless looms will be in place: 24,000 rapier, 20,000 missile, 6,000 water-jet, and 4,000 air-jet. The rapier looms are up to 130 inches wide, and several water-jet shuttleless looms operate at up to 600 picks per minute.

Knitting Developments. Electronic guidance and controls along with larger, faster knitting equipment dominate developments. Hosiery machines have increased in speed from 250 rpm-2 feeds to over 1,000 rpm-4 feeds in the last 15 years. Several years ago an operator ran 20 to 30 machines but now supervises 60 to 80 machines. This is an increase in productivity of 20 times.

Flat-bed knitting machines have reduced the joining operation time by two-thirds in the last few years. Circular knitters now hold 120 packages and produce fabric at the rate of 2.8 yards per minute. Increased productivity is the key phrase in knitting.

Nonwoven Developments. Although concentrated in the nonapparel area, nonwoven textiles are the fastest growing segment of the industry. Rayon continues to dominate this market, but polyester is gaining an ever larger share. Road underlays, filters, and similar industrial products are a growing market, while diaper pads are expected to plateau. The hopes held out for Nexus fabrics in apparel have never materialized.

Preparation. The new looms have required new wider, faster warping and slashing equipment. Warper speeds are now up to 1,500 yards per minute on beams with capacities of up to 4,000 pounds. Electronic controls and pneumatic breaks to control production have become essential.

Slashers are now adaptable for both spun and filament yarns. Drying car temperatures can be individually controlled. Roller pressures have been increased to 10 tons to remove moisture and reduce energy requirements in drying.

Dyeing - Printing - Finishing. The news continues to be negative as American dye manufacturers withdraw from the market because of environmental and health restraints. Formaldehyde for durable press products appears to be heading for the banned hazardous substances heap because it may be classified as carcinogenic. Some replacement chemicals have been found, but it is not known how effective they will be.

Energy conservation is the target of all finishing and dyeing developments. The Department of Energy estimates that the textile industry reduced energy
requirements by 15 percent between 1972 and 1979. Riegel Textile, as an example, installed new back-pressure turbines that produce electricity at one-third the cost of the public utility, and the waste heat is then used in the plant's finishing operation to achieve even greater efficiency.

Legislation and Regulation. Care labeling is the prime piece of regulation to affect the apparel industry in 1982. Congress now has the option to veto the proposed expansion of the Rule. It is believed that no action will be taken and the Rule will take effect in early 1982.

Cotton dust standards have caused some mills to switch entirely to man-made fibers.

Reduced regulation should open areas of significant improvements for the textile industry.

Apparel Fashion. The look is soft, smooth, streamlined, and feminine, including light-weight dresses and blouses that flow and drape. Ruffles and lace continue but with reduced emphasis. Emphasis is on asymmetric lines and patterns, business dresses that look important, are well cut, and define a figure without being "sexy."

Fabric Fashion. Following apparel trends, fabrics will be softer and lighter, including light-weight crepes, georgettes, and organdies, with woven satin stripes for emphasis. Prints continue weak with garden prints and florals dominating. Stretch fabrics are becoming lighter weight and entering the "tops" market. Linens and herringbones are being used for suiting and business dress. There is surface interest in fabrics with slubs and micro-nubs.

Knits are open and nubby. Imported novelty yarns, very light-weight (chiffon) knits, and patterns with fine-line stripings or double track stripes are important.

FASHION MERCHANDISING EDUCATION: A DIALOGUE WITH RETAILERS

June F. Mohler
Dean, School of Consumer Science
Winthrop College, Rock Hill, South Carolina

For the past decade, college and university programs in fashion merchandising have enjoyed almost unprecedented growth. In many cases the program has become the "star performer" in terms of enrollment and degrees conferred in our academic homes--whether in home economics, consumer science, human ecology, or a host of other new nomenclature. Often these programs are offsprings of other textiles and clothing programs; quite frequently they have literally spawned themselves. They have one thing in common. They most often are out of textiles and clothing program areas or departments.

The most recent data concerning degrees conferred in the textiles and clothing area reflect students' continuing interest for these programs. The 1980 Harper report listed a total of 3,606 degrees in textiles and clothing, 23 percent of the total bachelor's degrees granted in home economics. Just 10 years earlier, textiles and clothing bachelor's degrees represented approximately 10 percent of total undergraduate degrees conferred. We have doubled our degree productivity in one decade. It is almost impossible to extract from
these data the breakouts of fashion merchandising graduates; nonetheless, it is known that the majority of our textiles and clothing degrees are being conferred in this area. Add to this data the two-year institutions and their graduates, plus the too few graduate programs, and you arrive at a statistic of some import.

Clearly, the fashion merchandising program is popular. It has attracted many students to academic units—and at a time when undergraduate enrollment has begun to sag nationwide. The long awaited baby bust demographics finally have caught up with most of us—even in the sunny South. It will be interesting to watch these fashion merchandising enrollments throughout the next decade. Many reports now indicate that this will be a high-demand area for graduates—and that indeed, the supply will fall short of anticipated demand by a sizable number.

May I quote to you from the latest USDA Report, "An Analysis of Supply/Demand Relationships"* by Kyle Jane Coulter and Marge Stanton, which I recommend to all who follow job market trends. (I suspect that most of you have more than a passing interest in the subject.) Looking at market demand through 1990, this report focuses on the seven general occupational clusters in which our students are trained; they are:

1. Administrators and Managers
2. Design, Manufacturing, and Processing Specialists
3. Marketing, Merchandising, and Sales Personnel
4. Media Specialists
5. Scientific and Professional Specialists
6. Service Specialists
7. Educators

"The supply/demand data for marketing, merchandising and sales personnel suggest an annual shortage of 4,488 professionals or a 26 percent unmet demand.

"...Consequently, substantial employment opportunities are projected through 1990 for home economics graduates with expertise in marketing, merchandising and sales. Masters and baccalaureate graduates will be needed primarily for marketing and merchandising positions. Associate graduates may expect to find ready employment in a variety of sales positions.

"...an extensive number of buyers, merchandisers, display specialists, demonstrators, market analysts and economists, and customer relations personnel are needed in the labor force. A sustained demand is anticipated for marketing, merchandising, and sales personnel, since food, clothing, and shelter are requisite to satisfying basic needs of individuals and families and since families of today are consuming units as opposed to producing units."

The gist of all these statistics is that fashion merchandising probably will continue to be in demand, at least through 1990. Beyond that my crystal ball gets a bit cloudy, but as an administrator I am content to plan within a seven-to-eight-year time frame.

Teddy Roosevelt once said that "nine-tenths of wisdom is being wise in time" (from a speech in 1917). Let us be wise in carefully evaluating the effectiveness of our fashion merchandising programs while there is still time to do it wisely and well.

Enrollment (credit hour production) too often is the prime concern of administrators caught in the restraints of budget cutbacks. You know all too well the problems here; formula funding or per capita student funding is an endless battle with the numbers game. Academic quality, the essence of what we are
about, sometimes takes a back seat at times like these. Our retailing guests today are probably smiling at that line; trimming budgets is nothing new to the business world. They know that business cycles produce ups and downs—good times and hard ones—and they have learned how to respond to and profit from such downturns. Perhaps we can learn some lessons here.

And that is what we propose to do today—learn something about the manner in which retailers recruit for executive placement. More specifically, we want to know how they recruit college graduates, what they look for in executive training candidates, their performance expectations, and how we can improve our graduates' opportunities for employment.

We decided that an effective approach would be to engage in dialogue rather than using a formal speech format. We have six panel members. Three guests from the retailing community represent the major power thrust of retailing in the greater Philadelphia area, as well as its satellite environs. They are Ms. Beth Miller, Director of Executive Development, Gimbels; Mr. Timothy Corcoran, Manager, Executive Recruitment and Placement, Strawbridge & Clothier; and Ms. Amy Rauchman, Director of Executive Recruitment and Placement, John Wanamaker. And to respond to our retailing representatives, three of our own members have agreed to participate, Dr. Mary Barry, Auburn University; Mrs. Jacqueline Starr, Cheyney State College; and Ms. Ruth Weibel, West Virginia University.

As I introduce each guest, I have asked them to tell you briefly what they do in their positions in executive recruitment management and to relate any general information that might be helpful in understanding retailers' expectations of college graduates. They have been given a list of questions developed by our member panel, to which they will respond at the conclusion of their introductory remarks. If time permits, we will open the discussion to the floor. We trust that you will have questions answered, learn a bit more about the world of executive recruitment, and be inspired to share some of this information with your colleagues.


FUTURE DIRECTIONS FOR ACPTC
OVERVIEW OF FUTURES COMMITTEE

Judith Zaccagnini Flynn
Framingham State College, Massachusetts

Welcome to today's program on "Future Directions for ACPTC." The purpose of this meeting is to describe the current work of the Futures Committee and gather reactions and ideas for future work that we, as an organization and as individuals, should undertake.

The National Executive Board under Dr. Lois Dickey's leadership established an ACPTC Futures Committee in October 1980. Members of the committee are: Mary Don Peterson (chairman), Marilyn Horn (Western Region), Agatha Huepenbecker (Central Region), and myself, Judy Flynn (Eastern Region). The purpose of the subcommittee "is to assess the status and needs of clothing and textiles as a subject matter area of home economics and formulate plans to enable clothing and textiles to become a more viable area in home economics in the future."

The committee began by compiling a list of references* that related to
future directions and publications of concern to clothing and textiles. Committee members submitted their ideas concerning directions for ACPTC to focus its priorities. This information was sent to Executive Board members for their input.

The committee communicated through telephone conference calls and many letters. We concluded that the organization had immediate needs such as a response to the USDA publication *A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension and Higher Education*, often referred to as the "New Initiatives." The association also has long-term needs such as identification of new relationships between clothing and textiles and home economics at the junior college, college, and university levels.

The Futures Committee would like to see workshops organized regionally and nationally. From these workshops, we would expect philosophical and practical brainstorming for identification of new directives for clothing and textiles. The speakers today were asked to share their ideas related to future needs. We hope this will stimulate the membership to add their ideas and to comment and refine the ideas presented today. You will be given the opportunity to share your own ideas in two formats. The first will be by filling in a sheet about each topic covered. The second will be at lunch today when you will have the opportunity to discuss your ideas with today's speakers.

Today's program is divided into long-term, present, and immediate needs. Our first speakers are Fran Duffield and Carol Warfield who, with staff members at Auburn University, have begun to organize concepts necessary for the development of a theoretical framework for clothing and textiles. Their work and ideas are an excellent overview of clothing and textiles and should give each of us some thoughts to consider.

*References:*


FUTURE DIRECTIONS FOR ACPTC

A THEORETICAL FRAMEWORK TO ADVANCE TEXTILES AND CLOTHING TO THE FOREFRONT

Frances J. Duffield and Carol L. Warfield
Auburn University

Textiles and clothing has been considered an integral part of home economics since the very early days of the profession. The need of all people for food, shelter, and clothing is widely recognized. However, if we as textiles and clothing professionals are to function efficiently in the age of Toffler's Third Wave (1), it is becoming ever more imperative to reassess our long-range goals and readjust our priorities. This has become apparent from the reactions of textiles and clothing personnel to publications such as A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education and a series of articles in the Spring and Fall issues of the Journal of Home Economics (2).

Judy Flynn, the Eastern Region representative on the National Futures Committee, requested Frances Duffield, along with other members of the ACPTC Regional Council, to submit a statement addressing these issues. Dr. Duffield enlisted the assistance of other textiles and clothing faculty members at Auburn University.

It became apparent to us that the establishment of long-range goals and priorities for our college and university textiles and clothing programs was imperative. This is crucial if we as professionals, in a collection of related subject-matter areas, are to effectively plan and implement programs important to individuals and families of the future. Much of our present time and energy is spent on stop-gap measures to meet an immediate need for which few, if any, contingency plans have been made. In an attempt to put our thinking in a long-range perspective, we formulated the following framework. We present it as a stimulus to elicit reaction from other textiles and clothing professionals.

Whereas teaching, research, and public service/extension are mandated as the mission of land-grant institutions, we believe all three components are necessary for a viable and vital textiles and clothing program in any institution of higher education that attempts to meet society's needs now and in the future. Throughout the remainder of this paper, textiles and clothing programs will be assumed to include all three of these service areas.

For any discipline to function effectively now or in the future, the field as a whole and individual units (such as departments and divisions) must establish realistic, challenging, and forward-thinking goals. In addition, criteria must be established for measuring progress toward goal attainment. Our framework outlines goals and a means for their implementation and evaluation by textiles and clothing professionals.

Teaching

Teaching effectiveness, student effectiveness, and political involvement are desired goals for the teaching component of any textiles and clothing program.

Teaching Effectiveness. To be an effective teacher one must develop expertise in the following:

1. Awareness—An awareness of students' needs is of prime importance in a teaching program. Therefore, it is necessary that student needs continually be evaluated and changes made in curriculum, programs, and services as necessary. It is important to consider both faculty's and students' perceptions of students' present and future needs. It is further necessary for both groups to
be perceptive of, receptive to, and involved in implementation of desirable changes.

2. Interaction--We must become conscious of and incorporate into our programs the current needs, issues, and developments affecting home economics as a whole and the particular area(s) of textiles and clothing that we claim as a specialization. To achieve this degree of consciousness, faculty need to attend and/or to take part in seminars, workshops, and/or symposia. Though membership in professional organizations, such as AHEA, ACPTC, Costume Society, and AATCC is necessary to maintain teaching and/or professional effectiveness, involvement on a deeper level is needed to increase one's professional development. Though it is always easier to say "This organization doesn't have anything to offer me," a more positive approach is, "What can I do for this organization?" and work for its betterment. Another way to keep at the forefront of one's profession is to select appropriate advisory board members and use their expertise for departmental, faculty, and student growth and development. It is incumbent upon textiles and clothing professionals and students to offer their services to business, government, and community institutions.

3. Research--Quality research and dissemination of various aspects of that research through publications at all levels, from professional to popular, is necessary to build our credibility with the public. It is important for us to remember that our credibility suffers greatly when research is poorly conceived and/or conducted. Research manuscripts that are poorly written or that do not meet the needs of the intended audience also erode our credibility. Our public for research dissemination is composed not only of lay persons, but also of one's peers (fellow faculty members and other textiles and clothing professionals), students, and potential employers.

4. Communication--For effective teaching the ability to communicate well in oral and written form is essential. These skills need to be exercised and honed and the channels kept open to encourage interaction between faculty, administration, students, and the general public. An especially important part of this communication system is the positive reinforcement and support for colleagues and students, such as development of people-building skills.

Student Effectiveness. Student effectiveness is evaluated in terms of ability to perform in the academic setting, as an employee in a professional capacity, and as a citizen in the local, state, national, and international community. For students to function effectively, they need the following:

1. Flexibility--The student must be able to appreciate and/or function within a variety of time and material constraints, personality differences, and value systems.

2. Responsibility--Students must be willing and able to assume and carry through responsibilities of a personal, job-related, and community nature.

3. Initiative--Students must become self-starters with the self-motivation and ability to carry a task through to completion.

4. Mastery of subject matter in area of specialization--To perform effectively in the professional world, mastery of subject matter is essential.

5. Communication skills--Effective oral and written communication is a must for students to succeed academically, in interpersonal relationships within the family, and in carrying out community or job-related responsibilities of the future.

6. Positive self-concept--This is fundamental to functioning effectively in today's society.

We recognize that students come into textiles and clothing programs with varying levels of these characteristics, and not all students will be able to
achieve the desired levels of each characteristic. However, it is incumbent upon us to promote each of the above characteristics by providing--

1. Encouragement of independent thinking--We must encourage each student to assess, analyze, and evaluate critically the pros and cons of an issue; to think independently, make decisions, and accept the responsibility of those independent decisions; and to accept the fact that other people may have different, but equally valid views about an issue.

2. An atmosphere of stimulation--This builds students' self-concepts and reinforces their worth as individuals.

3. A professional curriculum--We have an obligation to develop and update continuously a professional curriculum that prepares the students to function effectively in their present and future careers.

4. A liberal education--A well-rounded, liberal education curriculum will help the student move vertically or horizontally within the chosen career or to be prepared to make career changes.

Political Involvement. Part of the reason textiles and clothing professionals usually react to policies already made rather than take the lead in making policies lies in our lack of effectiveness in public policy formation. We often leave originality to others, then try to jump on the bandwagon. To build competence in this area requires a diligent effort.

1. Be informed--To become effective in policy-making areas requires a thorough knowledge of the issues, possible approaches to these issues, and ramifications to be expected if specific approaches are adopted.

2. Professional leadership--We need to become active and be prepared to assume leadership roles in our professional organizations, such as ACPTC, AHEA, Costume Society; but we cannot stop there. Since policy-making decisions generally come from government or industry groups, we need to know the members of such groups and develop sufficient expertise and credibility to be asked to serve as members of or advisors to these groups.

3. Community activities--We also need to take an active role in community activities, whether political, service, or social in nature.

4. Personal issues--We have a right and responsibility to become involved on a personal basis with issues affecting the individual or the family.

Political involvement and increased competence in any one of these areas should reinforce and extend the effectiveness of involvement in the other areas. Political effectiveness implies knowledgeable, logical, and reasonable communication of issues, needs, and philosophies to those in policy-making positions. However, an even more critical need for textiles and clothing professionals is the development of skills to become effective as originators of public policy. We need not always be in second place, taking only what is given, fighting back, and/or making the best of it.

Research

Textiles and clothing research must be designed to meet both short- and long-term problems of individuals, families, and interacting institutions in a global society. To develop an awareness of current and future needs, professional and political involvement and interaction with those in other disciplines and professions, including extension, business, industry, community, and academia, is imperative.

One of the acute problems facing textiles and clothing is the shortage of people, facilities, and funds for research. The shortage of textiles and clothing professionals with graduate degrees is well known. However, the supply of qualified researchers is even less adequate since some textiles and clothing
graduate programs are not research oriented and do not generally produce graduates with the training necessary to plan and conduct original research.

The lack of textiles and clothing researchers may be attributed in part to our fragmented research efforts. Though "doing our own thing" is a luxury many of us enjoy and would hate to see abandoned, we in academia may no longer be able to afford this luxury. If most of us carve out our own niche, pooling and continuity of research efforts is limited, severely minimizing our total impact. Cooperative research of the following types can increase our impact--

1. Intra-institutional--Cooperation within institutions may involve assignment of a number of researchers within a department, industry, or governmental unit to work on a given problem.

2. Inter-institutional (academic)--Joint research efforts between academic units or institutions may include formal regional Hatch research projects among cooperating land-grant universities, and interdisciplinary and/or inter-institutional research efforts among departments on one campus or between universities. The ACPTC Newsletter is one way to identify current research areas that may tie in with another researcher's interests and activities. Formal computer searches, for example the Current Research Information Service and the Smithsonian Information Exchange Service, are other means of identifying ongoing or recently completed research in a given area.

3. Inter-institutional (academic and/or other institutions)--Business, industry, academia, and governmental institutions on state, national, and/or international levels may join together for a given research problem.

Some qualified researchers have very little time for research because of other job responsibilities. In other cases the limitations may be primarily financial, such as no laboratory facilities, funds for supplies, or released time for research efforts. To overcome the financial problems, we should become more effective politically, communicating our needs to administrators and other policymakers charged with the allocation of resources. We need to become much more effective in identifying sources of funding appropriate for textiles and clothing research and in writing successful grant proposals. It is the faculty member's responsibility to do thorough homework first to present a convincing case to administrator(s) or other grantors of funds.

Research should not end with generating new knowledge to address relevant societal problems, or even with the dissemination of that knowledge to the respective publics. Textiles and clothing researchers also must have an effective input in the creation of public policy that would use this research to improve the quality of life for individuals and families.

Extension/Public Service

Public service efforts may take a variety of forms, such as transfer of technology and accumulated knowledge through consultative studies or applied research; objective analysis of individual or family, governmental, industrial, or social problems; continuing education courses or workshops; and specialized training programs. Though we in academia tend to associate these efforts with educational institutions, business, industry, the government, and community agencies also engage in this type of activity. The Cooperative Extension Service, an integral part of each land-grant university, is a specific example of a nationwide system, serving the clientele of each state with programs devoted to lifelong education.

Textiles and clothing faculty need to recognize the importance of public service as a means of building a credible support base. Effective public ser-
1. Problem identification--Textiles and clothing professionals need to use public service activities as a viable, down-to-earth means of identifying the problems actually facing individuals and families.

2. Targeted research efforts--It is our responsibility to address these identified needs with appropriate research and teaching efforts.

3. Dissemination of information--The findings of this research need to reach the individuals and families who can benefit from this information. This dissemination of information is the primary responsibility of textiles and clothing extension specialists who are, incidentally, not permitted to undertake long-term research projects or resident instruction while being paid solely from Cooperative Extension Service funds.

Some ACPTC members are engaged in teaching and/or research and/or public service activities. Others may have only one official job responsibility. Regardless of our job assignments, we need to have the cooperation, support, and recognition of textiles and clothing professionals in all subject-matter areas and job responsibilities to achieve mutually beneficial results. One way to build a stronger system of cooperation, support, and recognition among these professionals is to encourage all who are qualified to become members of ACPTC. Concurrently, we in ACPTC need to promote both formal and informal liaison activities with other groups and professional and trade associations. Such liaison can be very beneficial in communicating the goals and needs of each organization and in identifying possibilities for joint activity.

Administration

We see the role of administrators as one of facilitating interaction of textiles and clothing professionals with their peers; with the individuals and families they serve; and with the macroenvironment composed of business, industry, the social and physical environment, and government institutions. The following characteristics are extremely important for an effective administrator, in any area whether business, industry, government, or academia, to possess and/or to develop:

1. Vision--The administrator must be able to see the "big picture" to meet not only present but also future needs.

2. Leadership--Administrators must provide the leadership and environment for mutual cooperation among all those under their administration to achieve both short- and long-range goals.

3. Policy-making skills--Effective administrators will develop the skills to interact on policy-making levels to achieve major goals; they also will encourage and assist in the development of these skills among other textiles and clothing professionals.

4. Competence--To provide the leadership necessary to bring textiles and clothing to the forefront, administrators themselves need to have competence in teaching, research, public service, leadership, and organizational skills.

5. Ability to stimulate others--Administrators also must have the ability to stimulate the desire for such qualities and accomplishments among their employees. Effective administrators recognize the importance of building a support system among those who work with and for them.

6. Mentorship--For textiles and clothing to attain and remain on the forefront, new leadership talents must continually be identified and encouraged. The use of a "mentor" system is one way to maintain a pool of qualified leaders, capable of accepting leadership responsibilities. Administrators should be filling this mentor role and also help identify and encourage other highly competent textiles and clothing professionals who could and should be effective in the mentor role.
Summary

As textiles and clothing professionals, whatever our role, we have a responsibility to perform as team members. The academic institution, business, industry, governmental agency, or professional organization that functions solely as a group of separate individuals cannot achieve its maximum potential. This is not to say everyone must always agree with everything all of the time, but it does behoove professionals to assess their personal career goals and priorities in light of job and/or organization goals and priorities. If the goals and priorities of the individuals and the institution or organization are not compatible, the individual should consider looking for a situation that provides compatibility of goals and priorities (3).

A theoretical framework to advance textiles and clothing programs to the forefront, including long-range goals and a means of their implementation and evaluation, have been presented for your critical assessment.

References:

EXTENSION--NEW INITIATIVES

Mary Helen Marshall
Extension Specialist, Clothing and Textiles
Virginia Polytechnic Institute and State University

I am glad we are looking at future directions together. I believe that regardless of our job description, extension, research, resident instruction, or some combination of these, we are in a business and we have a product to sell. Our business is education and our product is clothing and textiles programs. How we conduct our business and the quality of the products we provide will have impact on the visibility and viability of our subject-matter area as a whole.
I was asked to provide insight regarding extension and New Initiatives in terms of looking to the future. The more I thought about this, the more I realized I had accepted an important, but difficult task and I needed some help. I talked with people in a variety of positions about my topic. As a result, I will share some candid remarks that I believe will provide us with challenge, opportunity, and change.

Let me remind you that the Cooperative Extension Service is an integral part of the 1862 and 1890 land-grant institutions. The term "cooperative" means that there is a commitment from federal, state, and local governments to provide funding so that resources of the land-grant universities can be extended to serve the public.

There are less than 100 FTE's in extension clothing and textiles. They are located in 62 institutions throughout the nation, including the Virgin Islands, Puerto Rico, and Guam. The primary role of clothing and textiles specialists is to serve as the educational link between the university and the people of the state.

Basically, major program direction comes from two sources: problems and concerns identified by each state's constituency and concerns and trends that surface on the national scene. The challenge is to develop and deliver programs that benefit our publics and have an impact on state and national concerns in the most cost-effective manner.

I will describe how program thrusts have shifted over the past 20 or so years. Then, I want to share what our program emphasis probably will be in the next 5 to 10 years and point out some implications for our field.

In the late 1950s the Extension Committee on Organization and Policy (ECOP) established a national task force to study and make recommendations for extension programs. The result was a document titled A Guide to Extension Programs for the Future, which became known as The Scope Report. Included were recommendations for nine major program areas, including management on the farm and in the home, and family living. Clothing and textiles was identified as a major component in the family living section. Programs were designed to bring families knowledge, experience, and understanding that would enable them to adjust to continually rising living standards. For several years, emphasis in clothing and textiles programs was on teaching skills and decision making and in helping to combat the "war on poverty."

In 1966, a program document Extension Home Economics Focus was published. This was prepared by a Home Economics Subcommittee of ECOP. This document sent clothing and textiles specialists into a tailspin. The document identified the areas of national concerns as (1) family stability, (2) consumer competence, (3) family health, (4) family housing, and (5) community and resource development.

For the first time in nearly 50 years, clothing was not identified as a major thrust on the national agenda. We were being pulled between our publics who were demanding more programs in clothing and the national guidelines from which we felt omitted.

Specialists had to retool their thinking and programs. We were in an era where "quality of living" was emphasized and we quickly had to deal with how our subject matter could support the areas of national concern. At the same time, we had to be creative in our thought and delivery processes to meet the needs of our publics. During this time, clothing and textiles programs emphasized the social and psychological aspects as well as consumer aspects.

In 1974, a revision of Home Economics Focus appeared. It was simply titled Focus II, Extension Home Economics. Areas of concern were identified as (1) human nutrition, (2) consumer concerns, (3) children and families,
(4) housing, (5) health, and (6) community development. Again, clothing and textiles was not visible. But, clothing and textiles continued to be a viable part of extension programs. Programs were highly consumer oriented and a new emphasis was being placed on clothing health and safety factors.

Last year, a new document from ECOP appeared, Extension Home Economics in the '80s. High priority issues identified were (1) energy, (2) family resource management, (3) food and nutrition, (4) health and safety, (5) housing, (6) human development and parenting, and (7) public affairs. Again, clothing and textiles was not included as a major issue nor had it been used in citing areas of concern and program emphases under the major issues.

I have drawn two conclusions from this brief review. One is that we have done such a good job over the years that it is assumed we will continue to do so. The other is that the people involved in developing these program documents are so comfortably clad in their textile apparel that they fail to feel or see the impact that clothing can have on individuals.

Nevertheless, I sincerely believe that throughout the '80s we will have visible and viable extension programs in clothing and textiles. We will continue to support the national issues and contribute to the well-being of our publics.

Clothing and textiles extension programs in the '80s will no doubt need to emphasize management and coping strategies. Fifteen years ago, families spent about 15 percent of their income on apparel and upkeep. Today, they spend around five percent. When you put this in perspective with higher incomes and inflation, it's a real struggle for families to manage their clothing dollars. Also, we may need to provide programs that develop skills for self-sufficiency—programs dealing with salable skills and income generation. Changing lifestyles, in terms of family makeup and housing alternatives, will influence wardrobe and household needs as well as care and maintenance.

We must recognize that during the '80s people will not be available to attend meetings or workshops to receive information as they have in the past. Neither will they spend time reading. We will need to be creative in the use of new communication technologies to provide needed information. Recently, I heard someone say that there will be more new developments in microcomputer technology in the next two years than has been generated in the last 10 years. If we aren't careful our publics will be more computer literate than we are. To a certain extent, I believe they already are. At any rate, we will need to use new and/or different delivery systems if we are to keep in step with the time.

The information I have just provided contains a hidden message for clothing and textiles. During tight economic conditions and with belt-tightening strategies in force, this hidden message becomes a crucial one—we must speak up and we must speak out. We must make a concerted effort to keep clothing and textiles programs and their results in front of the decision makers. This is especially important for administrators and others who have no background in our area. It is difficult to talk, give support, or provide examples about a subject matter without adequate information and understanding. Often the decision makers do not recognize this void. The opportunity for gaining more visibility for clothing and textiles is by keeping people informed.

Another opportunity we have is that of working with people outside clothing and textiles. National issues require more interdepartmental and interdisciplinary efforts and this will aid visibility, too.

The major issues also indicate a greater need for more interaction among extension specialists, teaching and research faculty, and students. Virginia Tech extension specialists are fortunate to be faculty members in the academic department. We have the opportunity to work with other faculty and students in special projects and research and I feel we all benefit from this exchange. At some universities, unfortunately, extension may be viewed as second rate. If
you identify with the latter, I hope you make an effort to change the situation. We are all in the same business and we produce similar products, we just operate in different classrooms.

During the coming years, we will see shifts in the allocation of resources. Less money and more demands will surely be evident. This may result in more joint appointments, with extension and research combinations probably more prominent. Less money will mean a greater need for generating outside funds for programs and projects.

Accountability, cost effectiveness, and social and economic impact are terms that will gain in importance as we move ahead. I don't know much about zero-based budgeting, but I have an idea that what it really means is that if you can't quantify and justify the benefits of your program efforts, you won't be in business very long. It is imperative that better ways of obtaining needed program results be developed and used so that we can demonstrate the cost effectiveness of our programs.

As we face the future we need to consider our own professional improvement. If you are conducting your business the same as you were four or five years ago, you are behind the times. Figure a strategy for retooling yourself so you move ahead of the times.

I have already touched on some aspects of the report released earlier this year called A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension and Higher Education. But let me make additional comments. You recently received a letter from Mary Don Peterson, National Chairman for the Futures Committee regarding the New Initiatives report. Mary Don did an excellent job in presenting our concern for lack of clothing and textiles visibility in the document. She also gave ideas on how we can be involved in support of New Initiatives.

The basic concept for New Initiatives is very good. It is a plan for people in research, extension, and higher education to work together to identify major problems facing today's families and develop strategies for dealing with these problems. Over 400 educators were involved in developing this report. Time does not permit my presenting the program thrusts that were identified except by overall name. They are:

Thrust 1. Family Economic Stability and Security
Thrust 2. Energy and Environment
Thrust 3. Food, Nutrition and Health
Thrust 4. Family Strengths and Social Environment

A pilot conference has been held in four states: Illinois, Virginia, Oregon, and Nebraska. I understand that each of these states selected two of the four program thrusts and two initiatives under each of the two thrusts for pilot work sessions.

Plans were to combine the results of these pilot conferences and develop an implementation guide that could be used by states in setting up their plans for action. It was anticipated that this guide would be distributed sometime this fall.

My suggestions to you are:
1. Read the report.
2. Read Mary Don Peterson's letter.
3. Identify your state's participants as they probably make up the planning team for whatever your state decides to do.
4. Make yourself known to these people. Let them know you want to participate and that clothing and textiles has a contribution to make in the identified thrusts.
5. Become involved in the implementation of New Initiatives in your state.
TEACHING: WHO ARE WE AND WHERE ARE WE GOING?

Judith Zaccagnini Flynn
Framingham State College, Massachusetts

Teaching is the corner stone of our profession. It is through our students that we deal with the clothing and textile needs of the family, society, and business. Our students are the future of clothing and textiles. We as professionals enjoy and are stimulated by our contact with students in our classrooms. My dream for ACPTC's future is to further strengthen this contact with students and let them continue to carry our mission, goals, and objectives.

When deciding what our teaching needs were, I could easily list many. Yet, today I will focus on only two. The first need I see for ACPTC is for us to know who we are. As an organization we have a difficult time knowing our history and background for little is published. I was a graduate student before I could identify the leaders in clothing and textiles. This should begin at the undergraduate level.

In most other disciplines, one of the first things students do is learn about the history and development of their field of study. As an example, sociology majors often take an entire course on sociological theory. It is often taught by teaching who developed concepts and theories used in sociology—the history of sociology. Sociologists' lives, including family background, education, and the people they came in contact with, are studied. By knowing what happened in their lives, students become aware of how their ideas and thoughts were developed.

We should begin today to study the work of our founders, our leaders, and our members. Clothing and textiles specialists are hard-working, idea-oriented professionals whose work should not be lost.

We have an advantage in that many are still living and would be flattered to know that their contributions are important. An oral history approach may have potential. Two excellent publications are—


This could be an excellent project for graduate students and something that would help each of us to know ourselves. I would hope that an ACPTC member could compile and edit many of these histories into a single publication.

A second need for the teaching mission of ACPTC is one that the Futures Committee sees as a strong possibility and is related to curriculum and guidelines—that is, where are we going? Once a theoretical framework is developed, ACPTC can then sponsor workshops for members to focus on subject-matter content and relate this to our philosophical base. This is not a new idea. In the early '60s the association held a workshop on the Psychological and Sociological Aspects of Clothing. However, updating is needed and many other subject-matter areas can benefit from such brainstorming.

My purpose for this approach is twofold.

(1) We cannot all be experts in everything. Although clothing and textiles is a specialty, it is very diverse. Just consider which areas you "love" the most: textile science, textile technology, design, historic and cultural dress, economics of clothing, and the list can be continued. Yet, most of us teach in more than one area. If you are really challenged, you may teach everything. The workshops' purpose would be to create goals and guidelines for subject matter within clothing and textiles. These identified goals and guidelines would serve as guides for future directions.
The second purpose for workshops would be to give our clothing and textile programs some political backing. How often have you presented a new course to your curriculum committee only to hear the charge "You want to teach that in C & T!" "Doesn't Fabric Structure & Design belong in the art department?" " Doesn't Clothing Economics belong in the economics department?" " Doesn't Cultural Clothing belong in the anthropology department?" And the list can go on and on.

I firmly believe if the Association of College Professors of Textiles and Clothing established curriculum goals and guidelines it would help each of us make positive changes. We could strengthen our position by stating that ACPTC has established this subject-matter area as a national goal of clothing and textile programs.

What might these workshops include? Your ideas are crucial to make these workshops beneficial and productive. To start, I offer the following:

(1) It is necessary to relate each subject to an established theoretical base. We need to clearly identify why each course is taught and how it relates to the entire field of clothing and textiles.

(2) Each program must have a balance between theory and practice. We have done an excellent job in this area, but reevaluation must be constant. The pendulum keeps swinging. When economic times are good, we seem to push theory and let business and industry provide the practical experience. When economic times are tough, as we are now experiencing, our pendulum tends to swing in the opposite direction and concentration on skills and job placement seems to take over. We need to prepare our students for both economic situations.

(3) Professionals should immerse themselves in one specialty workshop. This would provide in-depth philosophical thinking. Each member should come prepared. A reading list could be established to get members ready. Possible preconference brainstorming could begin at your own college with colleagues unable to attend the workshop or with those participating in a different specialty workshop. The ultimate objective of these workshops would be to publish the results for all ACPTC members. This would be a tremendous undertaking but one I believe is absolutely necessary to justify our programs in view of declining student enrollment and massive budget cuts in education.

In summary, I would like to see us begin documenting our history by documenting the history of ACPTC members who made clothing and textiles what it is today. Also I hope to see curriculum workshops established that result in the publication of theoretical and practical guidelines for subject matter taught in clothing and textiles. These two needs will be accomplished only as a cooperative effort and I hope to recruit your help.
PROFESSIONAL DEVELOPMENT

TENURE: FROM THE POINT OF VIEW OF THE TENURE REVIEW COMMITTEE

Phyllis Tortora
Chairperson, Department of Home Economics
Queens College, New York

What I am going to say should be prefaced with a little description of the tenure process at my institution. You will undoubtedly see both similarities and differences with your own school. But even given the differences, I believe that some generalizations about the tenure process can be made. I will make some, and when I have finished, Deans Galbraith and Ritchey and Dr. Avery will comment further.

Tenure at my institution is conferred when professorial faculty are reappointed for the sixth year. Recommendations originate with the Department, are presented by the Department Chairperson to a Divisional Screening Committee (made up of chairpersons of other departments in the division), and Divisional Chairpersons assign a rating (1 for no, 2 for maybe, 3 for yes). These ratings are not binding, but are recommended to a Committee of Six. This is a committee consisting of two chairpersons elected from and by each Division. This committee considers all candidates from the entire College and votes on them. Candidates must receive four "yes" votes out of six to be given a positive recommendation.

These recommendations are forwarded to the President (with a "rubber stamp" vote from a College-Wide Personnel and Budget Committee consisting of all Department Chairpersons). The President can overturn decisions but rarely does, except to act positively on one or two appeals.

This past academic year, I served on the Committee of Six. It is from this perspective, as well as the perspective of having been a Department Chairperson since 1973 that I make my comments. They are cast in the form of "do's and don'ts" for tenure candidates.

1. When you accept a new appointment, be sure that you understand thoroughly the tenure process at that institution. Do not assume that you have either more time or more flexibility than you actually have before you come up for tenure review. Your immediate Department Chair should explain this to you, but if not, investigate it carefully. Also, check with your faculty union, if you have one, about its role in the tenure process. You may find that your faculty organization cannot assist you in any way if you are denied tenure on academic grounds. Most negative tenure decisions can only be appealed on technicalities.

2. More important than understanding the legal policies regarding tenure is to learn what your institution expects of faculty being reviewed for tenure. Assess the situation. If publication is the overwhelming criterion employed, that is where you should put your efforts. If your institution counts very heavily on service to the profession or the community, be sure to balance your efforts in this area. Certainly your teaching has to be satisfactory; but frankly, few institutions find themselves able to evaluate "excellent" teaching in any objective way, so "excellent" teachers who have not published or provided service often find themselves looking for other institutions at which to do their excellent teaching. Again, your Department Chair should give you these perceptions, but also seek them elsewhere. Ask other faculty, but remember that the era in which many of us received tenure was very different than it is today. That may make you resentful, but it is a fact of life in academia and you ignore it to your peril. Speak to your Dean. He or she probably has the best sense of what the expectations are at your institution. From all of these
sources you can probably put together a picture of what will be expected of you when you are reviewed for tenure.

3. If your institution does not have some formal system for reviewing your work, ask for an evaluation and get it in writing, if possible. Some colleges, such as my own, require an annual evaluation conference. In this oral and written summary, the candidate must be given advice on how to make the best possible progress toward tenure, promotion, etc. Actively seek feedback if it is not automatically provided.

4. Once you have ascertained what you need to do and have made efforts to obtain evaluation of your progress, concentrate on the areas essential to success.

5. Research and publication have become almost universal criteria on which tenure decisions are made. Service to the institution and the profession and quality of teaching also are carefully considered. At most institutions, however, the heaviest weight seems to be given to scholarship as reflected in publications. The following are conclusions I have drawn, based on hearing and participating in tenure review committees on both divisional and collegewide levels. You may agree or disagree with the points of view reflected in my comments, but I believe they are rather widespread attitudes. I would ask the rest of our panel to tell you whether they see these reactions at their institutions.

Your tenure papers and curriculum vitae are of primary importance. It is the rare situation, except at very small institutions, that all members of tenure review committees at the highest levels know candidates personally. The "paper" you, therefore, is the one that is examined. Even if papers are prepared by your department and not by you, the information and supporting materials you provide are going to form the basis of your case. Provide as much relevant detail as you can. Be totally accurate. Discrepancies of any kind tend to raise questions. Put in all relevant material, but be sure that it is appropriately categorized. A letter to an editor may show your professional concerns, but it doesn't belong under the heading of scholarly publications. Organize these materials carefully. If you put a file of supporting documents together, make them easy to examine and try to find a way to present the material to make your professional record as clear as possible.

Remember that your vitae may be sent to outside reviewers. These may be persons whom you have recommended or they may be independently selected. In either case, try to develop a vitae that will read logically. If you help develop curriculum materials, give a little summary of the kind of materials. If you served as a consultant to a community group, provide a brief description of what was involved, etc.

Obviously most review committees will consider juried publications more substantial evidence of scholarship than nonjuried publications. The reasons are clear—a jury of your peers evaluating your work is more objective than an editor's single opinion, especially if the editor happens to be a friend or a colleague. For those of you who are just entering the process of peer review of your work, I offer this observation. You should not be afraid of this kind of review. The doctoral committee process, which most of you have survived, is very similar.

My advice to tenure candidates is to concentrate on research and its publication in journals. Avoid book writing. Books have a long gestation period. Textbook publishers are often looking for aspiring authors. You may have a great deal to offer in this area. My own experience, however, is that it inevitably takes much longer than you anticipate to complete a book, and tenure review committees rarely consider work that isn't at least in press or in galleys as a real publication. I suspect you would do better to save your book
projects until after you've been awarded tenure.

Tenure committees tend to look favorably on evidence of a consistent record of scholarly activity and unfavorably on a sudden spurt of activity at the end of the probationary period. It's considered a temporary phenomenon that may not continue. If you do have a situation in which your various long-term projects all seem to hit the printed page at the same time, provide some evidence that this is work done over time and that its publication all at once is coincidental. I do not want to give the impression that solid work done in a "bunch" toward the end of your tenure probationary period is not helpful or useful, but it is far better to have a steady, consistent rate of production.

Tenure committees may have difficulty in assigning credit for multiple-authored papers. Be sure to spell out your part in these projects, stressing the unique contributions you have made to the paper.

When publications grow out of your dissertation, stress differences between the thesis and the subsequent work. It is expected that some of your early publications may come directly from your dissertation, but eventually committees expect to see something new.

If titles of articles in several publications are similar, make sure the differences in content are clear so that committees don't assume the same material has been published in two different places. Try to make titles of articles you submit different from other work you have published to avoid this problem.

Grants are often given heavy weight, particularly if they are made by those groups that review applications carefully. However, the work that goes into grant applications is considerable, and you may find in the present climate of funding your efforts in writing for journals will provide more "payoff" than grant proposal writing.

If yours is a specialized area that may be unfamiliar to those reviewing your work--the field of design comes to mind here--you may have to look for ways to interpret your field to others, to identify the major focus of your area, the kinds of work (i.e., juried art exhibits, etc.) that are significant in the field, the kinds of peer evaluation that are appropriate. Sometimes supporting letters from persons in your field at other institutions can be helpful.

Finally, I have seen committees view candidates as dilettantes whose work seems to hop "all over the map" with no clear scholarly focus. If your work concentrates in several areas that have no clear connection, try to clarify the reasons for this. Sometimes it may be that you have done work elsewhere using equipment or facilities not available in your college and have had to switch directions when coming to a new position; sometimes it is a new direction resulting from new academic interests. Be sure that the person who represents you to the Committee is aware of this.

Finally, a few words of advice on a personal level for the years preceding the tenure review.

It may be necessary to structure your schedule to allow solid blocks of time for research and writing. I consider summer essential time for nontenured faculty and believe that unless your contract and your department require you to teach in the summer, you should set this time aside for research and writing and use it.

Collect records of your professional activities as you go along. Find a good way of organizing this material. Keep a file copy of the programs of meetings like this one, and letters thanking you for work done, and put them together in a way that makes them easy to see and review. (A ring binder with plastic sleeves is a good format). This kind of thing won't have enormous impact, but it's a way of documenting your professional activities and participation.
Not all tenure candidates are successful. The reasons sometimes have nothing to do with the qualifications and qualities of the candidate. You could be rejected because of tenure quotas, retrenchment, dropping enrollments, or departmental overstaffing in a particular area of specialization. The climate in higher education is presently uncertain, and these are unhappy facts one must face. They offer some cold comfort in that they are not a judgment about you as a professional, when the time comes for the judgment.

The foregoing conclusions are based on my own experiences and observations. The remainder of our panel have experienced this process at different institutions. I will ask each of them to add their comments and advice and to stress points of difference. In this way we hope you will have the best opportunity to gain a full perspective on tenure.

TENURE
Carol E. Avery
Department Head, Clothing and Textiles
Florida State University

Although Florida State's promotion and tenure procedures differ slightly from those at Queen's College, I wholeheartedly concur with all that Phyllis Tortora said. It should be noted, however, that even those schools with the most specific written criteria tend to retain some elements of subjectivity in the decision-making process.

Faculty members, especially new faculty members, must learn to be selfish. It may seem impossible to say "no," but you cannot afford to allow teaching and service to steal your research and writing time. You can be an effective teacher and spend less time with your students. I sometimes think we in home economics are teaching our students to be dependent rather than independent because it satisfies our nurturing needs and makes us feel wanted. Learn to say "no" selectively. One or two important committees will probably be more helpful in the long run than many less significant ones. Stick to your office hours but hide the rest of the time. Spend your evenings, weekends, and summers in research and writing. Once you've established yourself, you can begin to live like a human being again.

Whether you are in teaching or administration, establish a clearly focused research program or direction for yourself. If your past work appears to be that of a dilettante, consider writing a statement for your promotion and tenure folder that ties everything together by pointing out commonalities or themes that appear in your work. There may, in fact, be a focus that is not readily apparent to someone outside the clothing and textiles field.

One of the most important functions of a chairperson or a dean is to foster faculty development. Some ways of doing this are to: (1) award merit pay primarily for research activities, (2) develop research goals and establish a research program for the department, (3) initiate research colloquia for the faculty and/or graduate students, (4) hold seminars on grantsmanship, and (5) encourage faculty to write, submit proposals, team up with other colleagues, and read and join research centers or institutes, participate in consortia, and read...
tinuously in their field of specialization. Above all, make it possible for the faculty to write!

In a period of change characterized by declines in enrollments, faculty mobility, and public support, we all have a vested interest in professional development and growth.

UPWARD MOBILITY IN THE PROFESSION

Ruth L. Galbraith
Dean, School of Home Economics
Auburn University, Alabama

My assignment for today is to speak about upward mobility within the profession to administrative positions at the dean's level or higher. Some of you in this audience should probably have your sights set on vice-presidencies rather than deanships as your ultimate objective--with the realization that it is now an attainable goal. However, the first question I'd counsel you to ask yourself if whether an upper administration post really represents a desirable goal for you. If the answer is yes, then how do you set about getting there?

The traditional route has been through good teaching and research with some demonstrated leadership, organizational, and managerial ability. This usually led to a department head's position, which then became the stepping stone to an associate dean's, and/or dean's position. Only a few home economists have gone on to vice-president's or president's positions to date--but more will do so in the future. This route has the advantage of giving the administrator time to build a reputation as a scholar before starting an administrative role and also to gain a good understanding of teaching and research techniques.

Within recent years, a second route to administrative positions has become available. This involves starting at a lower level administrative post within the dean's office directly after finishing a Ph.D. or after only a short stint as a teacher. This may be coupled with administrative training in workshop form or as an American Council on Education Administrative Fellow. These assistant deans are then moved into deanships, although not always at the major universities.

What qualities and interests should you have if you wish to be an upper-level administrator? A typical position description says that the unit wants a scholar with demonstrated teaching and research productivity, managerial and leadership skills, and the ability to interact well with faculty, students, alumni, and outside agencies. Not many of us have all these characteristics, so a unit weighs the differing strengths of the personnel available in making its choice.

A dean's job really involves providing leadership and supervision for finances, facilities, programs, and personnel for a unit. Of these, the last (dealing with personnel) usually takes the most time, the most skill, and is the most critical to the success of the unit. Some of the personal characteristics that I think are necessary to deal with people as a dean are fairness, integrity and honesty, wisdom, humor, cooperativeness, assertiveness, patience, tact,
enthusiasm, courage, the ability to not only listen but to hear what the faculty, students, or central administrators are saying, and above all the ability to make decisions while still being able to tolerate indecision for a certain period of time. There aren't many paragons with all of these traits either! You might note that several traits are the antithesis of others.

It is undoubtedly self-evident why the character traits listed above are needed in most cases, but there are three I'd like to expand on further:

1) The ability to listen and hear. This involves not only the willingness to listen to others' ideas, problems, and concerns but also includes the sensitivity, and sometimes, intuition, to understand what is back of what they're saying, even though they may be unable or unwilling to put their thoughts and feelings into words.

2) The ability to tolerate indecision for a time. An administrator may have a very clear vision of what can and should be accomplished in program, funding, alumni support, or whatever. That administrator usually can not do the work alone or simply announce that the unit is going to accept a given program. Faculty must be given time to react to, expand, suggest changes for, or negate any proposal that affects their interests. Sometimes, this is the area of greatest frustration for an administrator with great vision and also great decisiveness.

3) Courage. I'll make a small bet with you that when I mentioned this trait, you all immediately thought, "Ah yes, the courage to confront central administration on the unit's behalf." That action requires assertiveness, some persistence, and a good justification that is logically stated but not, usually, courage. The courage is needed in facing faculty and students with less than popular decisions, in firing a faculty misfit early rather than wasting the time to let tenure review take its course, in keeping one set of faculty from trampling on the rights and privileges of another, in setting priorities among programs when all are worthwhile and need extra support, etc.

What are the qualities needed for moving a program forward? The ability to motivate the faculty to action is paramount. Careful selection of new faculty to fit department and school needs and then helping those faculty members develop professionally are two of the most important elements of an administrator's job. Coupled with this are the development of a broader perspective of the total unit's programs, needs, and aspirations. Narrow program orientation must be left behind.

Promotion of the necessary funding for programs and facilities is a never ceasing part of an administrator's job. Wise fiscal administration, to get the most and best program from the money available, requires real attention to how funds are being used. There has to be a balance between giving a department head or project leader a budget with complete freedom about the way it is spent and enough oversight to enable the administrator to question unwise expenditures when the need arises. Through this process, the administrator must be able to tolerate and give attention to details without being ruled by them. A moderate tolerance for red tape and endless reports also is necessary in these days of fiscal and program accountability. The ability to write logically, grammatically, and, with luck, persuasively is essential for an administrator today. The last characteristic I would cite as necessary is the ability to live with constant deadline pressure while compartmentalizing your life to cope with this pressure.

What are the satisfactions of an administrator? In many cases, you have given up an active role in your own professional area and the satisfactions gained from that role. Your satisfactions now must come from helping to promote the growth of the profession as a whole. Progress of a unit is often measured
in inches or centimeters rather than in great leaps or bounds. Therefore, the administrator must dream and work for great things but gain satisfaction from small accomplishments as well. For some people, the perceived power and status of an upper-level administrator's position is a plus. There also is satisfaction in helping set policy for the university as a whole as well as for your unit. Salary scales for administrators are often higher than for all but the most senior or outstanding faculty members. The added salary is a plus in terms of both discretionary income and retirement level. However, as for all positions, the greatest satisfaction must come from doing a useful job the best way you can.

UPWARD MOBILITY IN THE PROFESSION

Carol E. Avery
Department Head, Clothing and Textiles
Florida State University

When Phyllis Tortora first asked me to discuss my experiences in moving from a faculty position at the University of Rhode Island to chairperson at the Florida State University, I was tempted to tell you all the problems I encountered in my first two weeks on the job. Even though the difficulties were circumstantial, they were enough to make me wonder why I'd ever made the change. But I survived, and the department did, too.

The route to upward mobility is not always planned. I seem to have taken each step as a result of a given situation rather than as part of any long-term strategy. Of course, the first requirement for attaining anything in academia is a doctorate. This in itself can be a major hurdle that requires the psychological, if not financial support of family and friends. When I first started working on my degree, at a relatively advanced age, I really did not expect it to pay off professionally. I needed the title to keep my university teaching job and advanced graduate work was something I had always thought, in the back of my mind, would be nice to do. Although my program included a couple of administration courses, I had never considered an administrative job as a serious possibility.

Other steps on the road to upward mobility included 10 years of participation in regional research where there were opportunities to learn from outstanding researchers in other institutions, to participate in research, and to have my name attached to research publications. Research is essential professionally, but more importantly the participation gave me an opportunity to expand my network of personal contacts.

Participation in ACPTC has been equally important. One can attend meetings, but it is more useful to work actively as an officer or board member and to make presentations. These experiences are important, and again they present opportunities to meet people, to expand your contacts, and to learn what others are doing.

Somewhere along the way, you may be lucky enough to attract the attention of a mentor who is willing to encourage and facilitate your professional development. In my case, mentors have included Virginia Carpenter, Elizabeth Crandall, and Jessie Warden. I am grateful to each of them.

I was also fortunate in being invited to attend a series of workshops on Administrative Skill Development for Women sponsored by Higher Education Resource
Since the establishment of the National Committee for the Advancement of Women in Education (NCAWE) in 1972, there has been a growing recognition of the importance of women's contributions to academic life. Despite this progress, women continue to face significant challenges in the academic workplace. Although such conferences are very expensive, they might be worthwhile even if you have to pay for them yourself—as many participants do. Again, the networking that develops in these meetings is helpful, but they also provide a good way to learn from the experiences of others, to clarify your goals, and to build up your resume if you have not had administrative experience.

After two and one-half years as department head, I feel there are many satisfactions to this type of administrative position. The pay can be a lot better. If you have been feeling "burned out," depressed, or in a rut, a change to an administrative job, especially coupled with a location change, can give your life new challenges and meaning. There are opportunities to meet new people, learn new skills, and solve new problems. I particularly enjoy working with graduate students, assisting in faculty development, and building a program that will meet the needs of the future.

Because an administrator's job is so diverse, it requires many qualities and interests. It also requires a good support system—a husband, if you are married, or family and friends whose egos aren't bent out of shape by your efforts to meet the demands of the job, a top-notch secretary or administrative assistant (who can make any administrator look good), and a sympathetic and supportive dean. Broad shoulders help, as do tolerance, persistence, patience, and organization. Experience in all aspects of teaching, research, and service build credibility with faculty and other university personnel. One must be concerned with the future and have the desire and ability to set appropriate goals. In speaking for the department, ideas must be presented in clear and logical order. You must learn to say "no" when the situation warrants it and you must learn to deal with stress because there is a lot of it. All in all, administration is a challenge I'm glad I accepted.

**PUBLISH OR PERISH**

S. J. Ritchey
Dean, College of Home Economics
Virginia Polytechnic Institute and State University

Publish or perish often is regarded as a message of doom or a challenge that cannot be appropriately met by the academic professional. Each institution of higher education has struggled with the implications of this rather ominous slogan or phrase. Each faculty being considered for tenure, promotion, and salary raises is confronted with the publication syndrome on an almost constant basis. Administrators offer advice, comfort, guidance, and challenge in the same breath; thus young faculty are confused and frustrated by the entire process of scholarly publication and by the need to make their mark in the academic community. I have been asked to discuss the topic from the general perspective of the function of juried publications.

Scholars in the areas of clothing and textiles have experienced unusual difficulties in publishing because of a dearth of juried or refereed journals appropriate to their subject matter. Development of journals and publication records
within disciplines is somewhat a chicken-egg dilemma. Development of a cadre of productive scholars within a given field creates a demand for journals as surely as the availability of journals promotes scholarly work by those within the field. Neither can exist without the other. The continued growth and development of clothing and textiles as areas worthy of scholarly work will result in the development of additional journals.

Juried publications serve several purposes to the scholar and to the user of information and knowledge generated by scholars. Journals provide an outlet for research work and other forms of creative expression. A refereed publication indicates that peers within the subject-matter area have critiqued the work and have accepted it as a valid contribution to the base of knowledge. Most journals operate on a system of anonymous review. This provides for an objective, sometimes seemingly harsh, review of manuscripts, but removes the reviewer from the potential for arguments about opinions. Most reviewers are objective and work hard at providing to editors and authors a realistic appraisal of the manuscript, but at times they can become rather caustic and personal. We try to avoid that with the Home Economics Research Journal, but it is not possible all the time.

Journals serve as an educational experience to authors, as well as readers. Reviews of papers provide an opportunity to correct errors and to improve research and writing skills. Each publication is a different experience for authors, reviewers, and editors. Recommendations from reviewers often give a new perspective to our data and interpretations, and can result in the enhancement of our skills in subsequent work.

Juried journals serve as a source of new knowledge in a field of study. Each paper has the potential of adding a bit of understanding to our subject matter. We all recognize that papers confuse the truth for periods of time, but this seems to be an essential element in our search for knowledge. Our hope is that journals provide more help than hindrance to our discoveries and to the continuing growth of the specific topic.

Prospective and less experienced authors should have no particular anxieties when they submit an article for possible publication. However, there are a few guides that can be helpful in succeeding with the process.

1. Follow carefully the style guide of the journal. Each has its own unique style, but you must adhere to the one for which you are writing. A guide for authors should be obtained. Scanning several articles in the journal can be helpful. I am amazed, and often frustrated, with papers submitted to the Home Economics Research Journal when there has been no apparent effort to follow the guidelines. Those papers are returned without review with a guide for authors, so the authors may revise the paper.

2. We assume that papers will be based on sound, acceptable research methods, but this is not always the case. Numerous papers are rejected by HERJ because of inadequate or sloppy design, sampling methods, and statistical analyses. As research in home economics becomes more mature, I believe this will improve. In my opinion, there is no excuse for these types of errors. Many seem to be research from graduate students, but closing our eyes to methodological problems and excusing the work as only a thesis or dissertation is a real disservice to the profession. We should want the very best from our students. Their papers should be on a par with any other from the profession.

3. Authors should give priority to revising their papers using the reviews as a basis for improvements. It is discouraging to have your manuscript torn apart by reviewers, but one should not give up at this point. My experience has been that the longer you delay the rewrite, the more difficult it becomes. We
have initiated the policy for HERJ that revisions are to be submitted within one year from return of the paper or the file will be returned to the author. We hope this encourages researchers to press forward with the paper.

(4) Manuscript quality begins with the development of the experimental protocol. Every aspect of the process will be reflected in the final report or the paper submitted to the journal. I tell my students that research is 90 percent planning and 10 percent doing; this is an obvious exaggeration, but the planning stages are often accorded less than adequate time and effort. This results in basic flaws that are not correctable. It is not a bad idea to think about the manuscript during the planning stage. It can be useful to prepare outlines of the tables and/or graphs before you initiate data collecting. This can result in the identification of potential problems or flaws and can cause a rethinking of objectives and purposes. Regard the process of design through publication as a continuous one rather than different parts or even different tasks.

The relationship of the Home Economics Research Journal to clothing and textiles has been an important one for the development of research in the field. I have heard faculty discuss the lack of journals appropriate to clothing and textiles. HERJ has provided a potential organ of publication. Rebecca Lovingood, my colleague associated with HERJ, developed some data to show the areas of publication. During the first nine volumes, there were 264 papers; 65 or about 25 percent were from clothing and textiles. However, there has been a significant increase in number of papers from clothing and textiles as HERJ has become established. During the first five years, clothing and textiles had 25 papers or 19 percent of the total published. Within the last four volumes, clothing and textiles published 40 papers or about 30 percent of the total. Thus, HERJ has served successfully as a refereed journal for your areas of interest. HERJ also has provided opportunities for faculty in clothing and textiles to be reviewers, members of the editorial board, and editors. In this way HERJ has served as any other journal might in a given field of study.

In the context of this panel on professional development, the discussion of publications and the role of refereed journals is most appropriate. I hope home economics and, more specifically, clothing and textiles is developing research capacities to the extent that we have fewer concerns related to publications. Our worries about publish or perish seem to be diminishing as refereed publications and journals become better established for our areas of scholarly interests.
Queen Victoria, a Sampler and a Lace Habit Shirt

Galor M. Edgeworth, The Florida State University

Two textile items said to have belonged to Queen Victoria of England were sent to Florida Archives from the Florida Abandoned Property Department. This historic research was an attempt to authenticate the items as having belonged to Queen Victoria, thereby making them rare and valuable holdings for the State of Florida Archives. The items from an abandoned safety deposit box were:

1. A linen sampler said to have been made by Queen Victoria as a child.
2. A lace habit shirt made for Queen Victoria about 1832.
3. An unsigned, handwritten memo, giving the above information and stating that the items were valuable.

Two tracks were followed in the authenticating process. One track was through available leads in the United States and the other track through foreign sources.

The track followed in the United States involved contacting the bank to become familiar with the procedure followed before turning the contents of the abandoned box over to the State of Florida. As expected, they had pursued all available leads in attempting to contact the person who had rented the safety deposit box.

Next, references were searched in the Florida State Library and the Florida State University Library. The search for leads included books detailing Queen Victoria's schooling, hobbies, and other aspects of her childhood. English costume books helped confirm the use of the lace habit shirt style during the 1830s although formal and informal portraits and prints of Queen Victoria did not show one as part of her costume.

Books on English samplers aided in analysis of the sampler. References on extant samplers in Great Britain were checked. The catalog of samplers available in the Victoria and Albert Museum was searched but no missing sampler or lead showed up.

The second track followed leads through foreign sources. The Public Records Office in London reported no inventories of clothing and like items belonging to Queen Victoria in their holdings. The Royal Archives at Windsor Castle listed no inventories in their possession listing items like the sampler. An inquiry to Naomi Tarrant, Curator of European Costumes and Textiles, Royal Scottish Museum in Edinburgh brought a response in which she wrote, "I know of no references to any surviving work of Queen Victoria." She indicated she felt it would be impossible to trace any connection to Queen Victoria without the name of the person to whom the sampler belonged. She wrote that in and around Balmoral, for example, many items of clothing and small presents were given to estate workers and villagers.

Natalie K. Rothstein, Keeper of Textiles, Victoria and Albert Museum, London, was identified by the Public Records Office as the leading expert in England on Victoriana. Since the researcher was scheduled to be in London, arrangements were made to take the specimens for consultation with Natalie Rothstein. An appointment also was made with Madeleine Ginsberg, Keeper of Dress, Victoria and Albert Museum, an expert on eighteenth and nineteenth century English clothing. After examining the specimens, both experts felt
strongly that the sampler was not made by Queen Victoria as a child. One reason was the poor quality of linen from which the sampler was made. The crowns worked into the sampler had no significance. Also, Queen Victoria was known not to be a needlewoman. The quality of lace made Madeleine Ginsberg feel the lace habit front was probably never worn by Queen Victoria.

Although the results of the research were disappointing, in historic research, statements cannot be accepted as fact unless they can be authenticated. But even if the findings show the items cannot be authenticated, the results are no less important. In museums and state archives this type of research is and should be an ongoing activity.

A Design for Research: The Middletown Weavers

Clarita Anderson, University of Maryland

"The Middletown Coverlet Weavers" research project is part of a larger project, "Maryland Coverlets and Their Weavers." Two regional and one national study of coverlets and their weavers have been made. The Maryland project is a continuation of the current scholarship in American coverlets. The coverlets were viewed as part of our material culture and examined as such using E. McCluny Fleming's model for artifact study.

Thirty-nine Middletown coverlets were located and documented using a data sheet designed specifically for field use. At least three photographs were taken of each coverlet showing a close-up of the corner block; an overall view showing the side and bottom border, the corner block, and the field; and at least one repeat of the field. A print of each coverlet was made and filed with the field data sheet. An analysis sheet was designed and each of the three weavers' work was tallied on a separate sheet and then summarized.

Fleming's model was used as a basis for analysis of the three weavers' work. Each weaver's work was examined for history, material, construction, design, and function. From these five steps, a set of facts became known about the coverlets and a comparison was made with the other Middletown coverlets, other Maryland coverlets, and coverlets that were woven in other states. Fleming's model includes an aesthetic evaluation that the author felt was inappropriate for the study and a cultural interpretation that, for the most part, was beyond the scope of the project.

The study design and model worked well and met the requirements of a good study of both technology and material culture.

The Clothing of the Central Appalachian People, 1925 - 1935

Rita S. Purdy, Virginia Polytechnic Institute and State University

This study was undertaken as historical research to analyze available data about the clothing of the people of the central Appalachian mountains in the late 1920s and early 1930s. Their clothing reflected the cultural and geographic isolation of the region and revealed what garments were worn in an area remote from fashion centers.

The purposes of the research were (1) to identify the characteristics of clothing worn in the area, (2) to investigate the relationship between dress and social and economic conditions of the mountain people, (3) to determine if there was a cultural lag based on rural isolation, (4) to ascertain
the source of their clothing, and (5) to investigate how clothing was adapted to meet conditions that existed in the mountains.

The information was gathered by studying oral histories collected from more than 200 older residents in eastern Kentucky, southwestern Virginia, and southern West Virginia. Students at Alice Lloyd College in Pippa Passes, Kentucky, collected the information; the work was funded by a grant from the National Endowment to the Humanities. Additional information was obtained from 35 personal interviews conducted by the researcher and by an analysis of photographs by the social photographer, Doris Ulmann, made during this period. A Design Characteristic Checklist was used as a style analysis form. Each style characteristic observed in the photographs was noted on the checklist to use as a basis for quantifying the information.

The research was an attempt to help provide a substantive analysis of Appalachian clothing before it is lost to history. The use of field research, including oral histories, personal interviews, and photographs, gave an immediate sense of human factors that cannot be realized through documentary research.

Analysis of Greek Women's Chemises in American Collections

Linda M. Welters, University of Rhode Island*

Greek women's chemises of the eighteenth, nineteenth, and early twentieth centuries located in American museum collections were studied to fulfill two objectives. These were (1) to compile a catalog of Greek women's chemises found in American collections and (2) to determine if the information gleaned from the cataloging of Greek women's chemises in American collections contributes to the existing scholarship on the chemise.

Information was gathered by (1) using specially designed data collection sheets when cataloging the chemises, including categories for fiber content, fabrication, cut, construction, and embellishment; (2) drawing garments to scale on graph paper; and (3) photographing garment fronts, backs, and details. Of the 41 museums contacted, 11 responded that their collections contained Greek chemises. Ten museums were visited and 78 chemises studied. (The major collections are housed at the Metropolitan Museum of Art in New York, the Museum of Fine Arts in Boston, the Royal Ontario Museum in Toronto, and the Museum of International Folk Art in Santa Fe, New Mexico.) A research trip to Greece to investigate unpublished and current research efforts took place in summer 1981.

The chemise is a garment form common to all Greek women's traditional costume of recent centuries. Being essentially an underdress, it was the first garment put on. However, the embellished hems, sleeves, and necklines were visible when the Greek peasant woman was dressed. For the purposes of this study, the chemises were categorized according to cut. The categories were (1) sleeved tunic, (2) sleeveless tunic, (3) eastern cut, and (4) western cut.

The majority of chemises, 42 of the 78 seen, fell into the sleeved tunic category. This shape was characterized by a center front and back cut from a continuous loom width. The side pieces were angular. Two or more gores to further increase the skirt width were common. Sleeves were straight, and made from one, one and a half, or two loom widths. Use of embroidery varies from narrow borders on sleeve and skirt hems to elaborate ornamentation on seamlines, necklines, sleeves, and skirts.
Nineteen of the chemises studied were sleeveless. This group was similar in cut to the sleeved tunic but worn with a separate sleeved bodice to achieve the appearance of a sleeved chemise. All of the chemises in this category were embroidered in wide borders only at the skirt hem.

Three of the chemises were eastern in cut, having origins in the Turkish shirt worn by both sexes. This category was characterized by a continuous front and back loom width comprising the side panel and sleeve undersection. The fabrics used were highly creped. These chemises were not embellished other than by a narrow decorative edging of needlelace.

Fourteen of the chemises showed western influence in cut. These chemises had skirts of three or four loom widths gathered to a bodice at a defined waistline. The sleeves were full and usually gathered by pleating the fabric across the shoulder area. This type of chemise was decorative in appearance and worn only as wedding or festival dress.

Study findings should prove useful to others interested in traditional costume of Eastern Europe, the Balkans, and the Near East as the cuts of the chemises are similar. Also of interest is the relationship between fashionable dress and traditional peasant dress.

*Research conducted through the University of Minnesota.

Use of Electric Blankets and Other Bedding Materials to Conserve Energy

Robert S. Merkel, Florida International University*

It has been recommended that household temperatures be lowered to 68°F during the day and 55°F at night. As many people, especially the elderly, already complain about not being warm enough in bed, the recommended temperatures may not be widely adopted. Electric blankets have been touted as a good solution to nighttime thermal discomfort because they can be used to prewarm a bed and because their energy consumption is very low compared to energy needed for space heating. It is estimated that a nighttime temperature setback to 55°F can save about 10% of total U.S. energy consumption.

The current research was designed to evaluate characteristics of electric bedding and to survey residents of southwestern Virginia regarding household heating, use of nighttime setbacks, kinds of bedding owned and used, attitudes toward electric bedding, and related information.

Construction and operating characteristics of a typical electric blanket and a typical electric mattress pad have been determined. The claim that (at an electricity cost of about 5¢/kwh) it costs four to five cents a night to operate a double electric blanket is confirmed. An electric mattress pad draws half the current to produce a very similar temperature level in the sleeping space.

Two hundred persons selected at random from Montgomery County and the city of Radford, Virginia, were surveyed by telephone during February and March 1981. The same instrument was used to collect survey responses from several local groups totaling over 100 additional persons. These groups included four local groups in Montgomery County, two elderly feeding site groups (one in homemakers clubs in Montgomery County), an RSVP group in Floyd County, and several home economics teachers.

Data from the 11-page questionnaire have since been coded and are being computer tabulated and analyzed.

When analysis is completed, during summer 1981, the following information
about this group of respondents will be known: household space heating fuels and equipment; monthly heating bills; how heat is controlled; daytime and nighttime household temperatures; beds used (by size); bedclothes worn; kinds of bedding used; age, and method and frequency of cleaning bedding items; use of and attitudes toward electric bedding; personal experiences with bedding fires; feelings about precautions recommended by the manufacturers of electric bedding; demographic information; and a measure of their warmth/cold perception. It is anticipated that a number of interesting and informative correlations among these results will be found.

*Research conducted at Virginia Polytechnic Institute and State University, Hatch Funds.

Home Sewing by Adolescents: Variables Affecting the Amount of Sewing and the Decision to Continue Sewing

Phyllis Maria Koontz, Virginia Polytechnic Institute and State University

The purpose of this study was to examine relationships between preadolescent and adolescent girls' and boys' deciding to sew their own clothing and several selected factors. A questionnaire was developed that contained questions dealing with time spent in activities such as jobs and clubs, students' reasons for not sewing at all or for not sewing more than indicated, amount and type of sewing performed, source of learning, questions related to peer pressure, and the Index of Adjustment and Values. Participants were seventh through twelfth graders from three localities in western and central Virginia. The localities used were chosen on the basis of population density. One locality was rural, one was semi-rural, and one was a city.

Questionnaires were delivered to the school by the researcher and administered by teachers following instructions provided by the researchers. English classes were used and were selected by each school's principal to include all ability levels. The final sample included 185 boys and 206 girls. The chi-square test for independence and Cramer's V were used to test for relationships among variables.

Results indicated that 3.2% of the boys and 55.8% of the girls sewed. Because so few boys sewed, their responses were tested for relationships with only a portion of the variables. The largest number of girls who sewed indicated that they first learned to sew from their mothers or in the public school systems, learned to sew between the ages of 12 and 14, only sometimes wore the clothes they made, and had five or less items in their wardrobe they had made. Of those who did not sew at all, 62.5% indicated that time was one reason for not sewing.

It was found that the number of hours spent on club work was significantly related to the amount of sewing performed. In addition, sewing skill level was significantly related to amount of student sewing. The decision to continue sewing was found to be significantly related to school clothing preferences and source of learning. Students who had learned to sew in public schools were less likely to continue sewing than those who had learned from other sources. Results of this research have implications for educators who teach clothing construction.
Development of an Analytical Electron Microscopy Technique to Study Removal of Oily Soil from Textile Fabrics and Fibers

S. Kay Obendorf, Cornell University, Ithaca, New York

Although much is known about detergency and laundry practices for soil removal from fabrics, many practical and theoretical questions remain. What causes soil to adhere to a surface? What is the influence of the textile substrate on soil removal? This research developed a method for microscopic analysis of oily soils on fiber surfaces and in the fiber structure.

Triolein, an unsaturated triglyceride found in human sebum, was applied to cotton and polyester/cotton fabrics that had durable press finishes. Osmium tetroxide was used to tag triolein by reaction with the double bond. Backscattered electron images and electron beam X-ray microanalysis were used to study the location of oils in the interfiber capillaries within yarns and in the fiber structure. Radiotracer techniques were used to characterize the total amounts of residual oil after 5, 10, and 15 soil-age-wash cycles.

Large amounts of residual triolein accumulated in the interfiber capillaries within the yarns. Cotton fibers entrapped oil in the crevice of fibers that had bean-shaped cross sections and in the lumen. Retention of oily soil by cotton fibers was thus highly dependent on fiber maturity. For polyester fibers, no triolein was observed in the interior region of the fiber although there were very large quantities of residual oil on the fiber surfaces. Heat aging did not cause triolein to diffuse into the polyester fibers.

Powdered detergents with either carbonate or phosphate builders were observed to clean fiber surfaces better than an unbuilt liquid laundry detergent. Less residual triolein remained in the interfiber capillaries after laundry treatment using longer wash times, increased mechanical action, and higher concentration of detergent. Bleaching and treating with a prewash product containing an organic solvent removed oil from the crevices of the cotton fibers. Oil in the lumen of the cotton fibers was partially removed by use of the prewash product followed by laundering and completely removed by extraction with an organic solvent.

Survival of Cellulosic Fibers in the Archaeological Context

Kathryn A. Jakes and Lucy R. Sibley, University of Georgia

The general purpose of this theoretical research involved application of current knowledge of fiber and polymer degradation to archaeological textiles and prediction of their potential for survival. The objectives were (1) to examine why cellulosic fibers decay or degrade in the archaeological context, (2) to examine the sets of circumstances that favor archaeological survival of cellulosic fibers, and (3) to ascertain any predictive capability for this information.

Interdisciplinary in scope, the research design required stipulation of a definition for fiber degradation, development of certain assumptions, and specification of study limitations.

Fiber degradation was defined as the chemical and physical deterioration of individual fiber structures.

Assumptions were that (1) a textile artifact is in the archaeological context longer than in the cultural context; (2) decomposition of a textile
fiber within the systemic/cultural context is a small fraction of that in its archaeological context; (3) the longer the time in the archaeological context, the greater the chance for fiber degradation; and (4) appropriate preservation measures are taken after removal from the site.

The limitations were: (1) cotton and flax were selected since they are the major cellulosic fibers known archaeologically; (2) only the preservation of cotton or flax textiles in their fibrous form was considered; (3) it is understood that other cellulosic fibers would exhibit similar modes of degradation; (4) no attempt was made to review photolytic and photooxidative modes of decay, since it is doubtful that ancient textiles would be exposed to light in an archaeological context; and (5) mechanically-induced degradation was not addressed, since deterioration of this type would not be relevant to buried ancient textiles.

Because current knowledge of fiber degradation has not been applied to an investigation of why fibers survive archaeologically nor to the prediction of loci for textile fiber survival, this work was initiated. Fiber degradation studies were reviewed for relevant information on the modes of cotton and flax degradation. From this review, the microenvironmental conditions favorable or unfavorable to the survival of cellulosic textiles and the interaction of these conditions were defined. A review of archaeological literature revealed those cultural and climatic conditions that would have placed cellulosic fibers in a given site. Information from several disciplines was synthesized to develop guidelines for predictions of potential survival of cellulosic textiles in an archaeological context.

It is proposed that accurate prediction of the presence of cellulosic textiles in the archaeological context requires a knowledge of (1) the cultural tradition, (2) the climatic conditions conducive to the cultivation of these fibers, and (3) the microenvironmental factors of the site, such as pH, salinity, temperature, relative humidity, and oxygen accessibility. Items 1 and 2 indicate potential presence of such fibers in the site, while factors within item 3 determine whether any or several of the modes of cellulosic fiber degradation have been active or have been inhibited. It is concluded that textiles of cellulosic composition have a greater potential for survival in the archaeological context than is reflected by current archaeological findings.

**Pressure Analysis as the Basis for Improved Design of Nursing Brassieres**

Anastasia Costantakos, Cornell University, New York

The objectives of this research were (1) to determine whether localized pressure on areas of the breasts, shoulders, and backs of nursing mothers could be decreased by varying specific design features of a nursing brassiere and (2) to determine whether objectively measured changes in pressure were related to noticeable changes in subjective perception of bra comfort.

A portable apparatus was designed to measure pressure. It consisted of a flexible sensor that incorporated pressure-sensitive materials and a load analyzing system to which the sensor was connected. The sensor was designed for placement under each bra to be tested, next to the skin. The pressure applied to each sensor was fed electrically into the load analyzer and read out on a chart recorder.

A pretest indicated that a bra exerts the greatest pressure on the following areas of the body: (1) at the top of the shoulder, (2) in the back of the bra under the crest of the shoulder blade, (3) in the middle of the side
panel directly under the armpit, (4) directly under the armpit, under the top elastic, and (5) directly below the nipple, under the front elastic.

An objective evaluation of pressure was conducted using 10 nursing mothers who wore the following brassieres: (1) the subject's own nursing brassiere; (2) a Lily of France Sports Bra, chosen because it met the criteria for a good supportive brassiere; and (3) four modified versions of the Lily of France Sports Bra that contained the following features: (a) a one-inch-wide band at the base of the bra, (b) a one-inch-wide nonelastic strap, (c) a strap with a two-inch-long elastic insert, and (d) an added undercup restraining piece.

To insure comparable support for all models, each bra was adjusted until the center of the subject's nipples reached a height consistent with the previously worn bra model. The sensor was placed under each bra in the five positions determined by the pretest. While wearing each bra, each subject rated its comfort in comparison with the preceding bra worn.

The results indicated that design features can be developed that reduce the pressure a bra places on specific body areas. The features of the commercially-manufactured basic sports bra resulted in a significant reduction in pressure in comparison with each subject's own bra. This was true for all points tested on every subject. Significant reductions in pressure also were achieved with the bra model with the one-inch-wide strap and with the model that had a two-inch elastic insert. For both models, significant reductions in pressure occurred at the top of the shoulder directly under the bra strap, and directly inferior to the center of the armpit, in the middle of each bra's side panel.

The results also confirmed that the bra models for which lower pressure values were obtained were regarded as more comfortable by the subjects. This was confirmed as statistically significant only on one model comparison: the bra with the two-inch elastic insert was considered more comfortable than the bra with the one-inch-wide strap. However, in all cases, objective readings of pressure reductions were accompanied by subjective ratings of increased comfort.

Laboratory Measurement and Evaluation of Thermal and Selected Comfort and Durability Properties of Twelve Textile Fabrics Intended for Indoor Wear in the Winter

Barbara Scruggs, University of Rhode Island

The purpose of this research was to gain information about insulating ability, other comfort-related properties, and durability properties of modern textile fabrics used for clothing worn in indoor winter environments when temperatures are lowered below normal room temperature. Twelve fabrics, selected as representative of those worn indoors in winter, were subjected to laboratory testing of thermal conductivity and selected comfort and durability properties. The test fabrics, obtained from the consumer market, included woven, double knit, and sweater knit structures in wool, polyester, polyester/wool, and acrylic fiber contents.

The Cenco-Pitch Thermal Conductivity Apparatus was used to measure the thermal conducting ability of the fabrics in cal/cm³/sec. Standard testing procedures and laboratory instruments were used for measuring moisture regain and air permeability to indicate comfort properties, while abrasion resistance and breaking/bursting strength were measured to indicate fabric durability.
Results of analysis of variance indicate significant differences in thermal conductivity of the fabrics by fiber/fabric structure interaction. Generally, the wools had lower conductivity (better insulating ability) than the other fibers and knits were better insulators than woven structures. This was interpreted to mean that wool knits provided the best warmth qualities. However, the difference between the woven and knit structures was much greater than differences among the fibers, indicating that fabric structure was a more important factor than fiber content. There were significant differences among the fabrics in the comfort and durability properties, which were found to relate to either fiber content or fabric structure. The comfort and durability properties were not found to vary according to differences in fabric thermal conductivity.

*Research was conducted at The Ohio State University, Hatch Project #625.

Serviceability of Velcro\textsuperscript{\textregistered} and Gripper Snap Closures on Clothing for the Mentally Retarded and Handicapped

Theresa Hewett, East Carolina University

The purpose of this study was to evaluate which closure, Velcro or gripper snaps, would provide acceptable pilling and abrasion resistance, tensile strength, and longevity for the least cost. Velcro and gripper snaps were placed as the only fasteners on the outside seams of 20 pairs of corduroy pants. These pants were worn on an assigned day each week by five nonambulatory residents of Caswell Center (North Carolina Institution for the Retarded) for 24 weeks. After each wearing, the pants were laundered by a commercial state laundry facility. They were evaluated by five trained observers after 1, 6, 12, 18 and 24 launderings. Observers identified a number of pairs of pants that had "not usable" fasteners and thus established the longevity of the two fasteners. Laboratory tests for pilling, abrasion resistance, and tensile strength were conducted after the twenty-fourth laundering.

To evaluate pilling resistance, ASTM D 3512-76 test method was modified by replacing the cotton sliver with individual pieces of Velcro hook tape and loop tape and gripper snaps adhered to corduroy fabric. The fasteners were not closed. At the conclusion of the test no difference in pilling was observed between the two types of fasteners.

Both fasteners replaced the emery paper on the CSI-Surface Abrader Model CS-59 in the modified ASTM D 1175-71 abrasion test. Swatches of corduroy were multi-directionally abraded. Both fasteners showed similar wearing patterns. It was concluded there was little observable difference in abrasion between the two fasteners.

The subjective ratings of the observers on the evaluation forms were in agreement with the pilling and abrasion test; no difference was found in pilling or abrasion between Velcro and gripper snaps.

Using an Instron, a direct pull peel test was conducted on the closures of three pairs of control pants and randomly selected residents' pants. Velcro ratings were consistent, with only a 0.85 pound variation. Gripper snap readings varied widely from a high of 4.6 pounds to a low of 0.9 pounds. Results from the Instron test indicated that gripper snaps required more force to open than Velcro fasteners. Both closures decreased in tensile strength with usage, but laundering had no apparent effect on the fasteners.

The observers' evaluations were tallied and statistically analyzed by the Kolmogorov-Smirnov two-sample test to see if there were significant differences
between the researcher-expected 100% acceptable ratings and the actual observed ratings of the two fasteners. After the sixth observation, all the Velcro fasteners were intact; however, three pairs of pants with gripper snaps had "not usable" fasteners. After the twenty-fourth week of the study, only seven pairs of pants equipped with gripper snaps were not usable. The test showed proportionally more "not usable" ratings for gripper snaps than for Velcro fasteners, thus indicating a higher serviceability for the Velcro.

A pair of pants requiring six pieces of Velcro per opening would cost $1.20 for Velcro fasteners. Gripper snaps for the same pair of pants would cost 30 cents. The cost of gripper snaps was 25% less than Velcro, but reflected only the initial price of the fasteners and not replacement costs to maintain the garment.

The pilling and abrasion tests showed no difference between the two fasteners. The tensile strength test indicated that gripper snaps required more force to open than Velcro fasteners. Both closures decreased in strength with usage, Velcro fasteners cost more initially, but provided better serviceability because they remained on the garments for the entire study.

Body Movement Analysis as the Basis for the Design of Garments for People in Wheelchairs

Gret Atkin, Cornell University, Ithaca, New York

This research focused on (1) analyzing the body movements of people in wheelchairs and (2) developing a method of using data on body movement to develop rainwear designs for wheelchair-bound people.

A review of literature considered thermal comfort, human movement analysis, and research factors related to garment design for people in wheelchairs. Of these factors, human movement analysis was selected as the most important because it had not been used directly as the basis for garment design.

To analyze body movements of people in wheelchairs, a range-of-motion study was conducted. Fifteen subjects were filmed as they performed three activities: propelling a wheelchair, donning garments, and transferring from a wheelchair to a stationary chair.

The film record of subjects' movements was analyzed on a Vanguard Motion Analyzer to measure the exact changes in body position that took place. The data were summarized by the greatest degree of movement exhibited in elbow flexion, shoulder flexion, hyper-extension and abduction, and hip flexion. These measurements were considered the most important because garments are designed to fit the body in the anatomical position. The more extreme the movement away from that position, the more strain placed on the garment and, conversely, the more restraint the garment places on body movement.

To analyze the effects of body movement on garments, a close-fitting basic garment was constructed. Openings with pivot points were created on the garment at the joint centers studied so they could move freely with joint movements. A mannequin was placed in the positions of maximum articulation found in the range-of-motion study. The changes in garment configuration were observed and recorded.

In analyzing the effects of body movement on garment configuration, both the shapes of changes that occurred and their linear measurements were considered. It was found that the shapes of the posterior gap and anterior overlap occurring with elbow flexion and hip flexion were symmetrical and quite similar in nature. The underarm gap with shoulder abduction was also relatively
symmetrical. The underarm gaps with shoulder flexion and hyper-extension were much more asymmetrical, with the posterior portion being wider for flexion and the anterior wider for hyper-extension. Linear measurements were made of the gap shapes that occurred.

A limited study using the experimental garment was conducted on humans. There was a great deal of discrepancy between linear changes occurring on the mannequin and on humans. It appears this is due to structural differences between the two, particularly joint structures, lack of musculature, and the rigid surface of the mannequin.

Using the experimental garment showed that certain shapes and linear changes occur in garment configuration as joint positions alter. It follows that addition of these shapes and measurements in the joint areas studied will provide unrestricted movement. Several approaches to designing rainwear for people in wheelchairs were outlined.

The researcher feels that the results of this study are a first step in establishing a link between kinesiology, biomechanics, and apparel. While additional research using humans is necessary, it is predicted that it will be possible to use data from a range-of-motion study to determine the effects of change in body position on garments. These results could be applied to apparel design to insure that resulting garments accommodate the movement needs for which they were designed.
Clothing and Textiles Index

Robert S. Merkel, Florida International University*

A computer-printed KeyWord Out of Context (KWOC) index has been prepared for clothing and textile research and theses as reported in Home Economics Research Abstracts, Clothing and Textiles section for 1976 and 1977 and ACPTC Newsletter for 1977 through 1981. The index comprises an alphabetical list of all significant words appearing in the titles of theses and projects and institutions where the work was done. Each alphabetical entry is followed by a list of all titles that contain that word. The index is, consequently, of the "multiple access" type with an uncontrolled vocabulary of title words.

An author index to the same set of documents also has been prepared. In addition, a controlled descriptor index to these documents (descriptors are analogous to subject headings in a conventional subject index) is in preparation.

It is anticipated that copies of these indexes can be made available at a cost slightly above the cost of computer printing and mailing. A future study could compare the searching effectiveness of the KWOC index and the descriptor index to the same file of documents.

*Research conducted at Virginia Polytechnic Institute and State University.

Instant Textile Design

Mary Alice Matthews, The Florida State University

Computer-aided designs is one of the newer applications in computer technology. Graphic cathode ray tube displays present line drawings, curves and schematics, in addition to alphanumeric information at random positions. Art ideas, fabric patterns, and other simulations form a part of these applications. The most common way to enter a design into the computer is from a drawing. A scanner or digitizer reads the design and programs it into the computer. The design can be fed in from graph paper or a sketch, worked out on the cathode ray tube by means of a light pen, or be formed from a combination of these. In any case the preconceived design comes first and programming into the computer follows.

Dr. E.P. Miles, Florida State University, has been experimenting with mathematical functions that could produce multi-color block designs. Using an Intecolor 8000 series terminal provided by the Intelligent Systems Corporation, software was developed to reproduce graphic patterns based on the functions of X and Y, including trigonometric functions. These block designs can be generated instantly on the computer in combinations of eight colors. Both the designs and the color combinations are almost infinite. Any combinations of X,Y functions can be entered along with size parameters and color selection. Other color combinations can be tried for different effects. For the person who does not want to generate an original, designs can be stored for instant display.

Application of these computer-produced color designs to textiles, needle arts, and other crafts is immediately apparent. Knitting machines and looms could be programmed directly from the computer coordinates.

Slides were made from selected designs and projected on a screen to the
desired size. The designs were transferred to paper or directly onto the canvas and yarns were selected. A latch hook rug, needlepoint, and two bargello designs are in progress. Color separations on the CRT and a line-by-line printout of the design will be used for silk screen fabric decoration and knitting patterns. Counted cross-stitch and a line-by-line transfer of the design to a hand loom are future projections. As new features are added to the software, they will be adapted to the textile arts. This is a creative, time-saving process for producing a colored block design for many varied uses.

Evaluation of Sewing Machines for the Blind

Nora M. MacDonald and Vera J. Huffman, West Virginia University

The main objectives of this study were to (1) evaluate procedures and machine features of adapted and nonadapted sewing machines to determine advantages and disadvantages for use by blind sewers and (2) to select the easiest-to-use model, if any. Six legally-blind high school students tested each of the following six machines: the Bernina 830H and 803, the Viking 6270 and 5530, and the Singer 2000 and 717. Limitations of the study included the small sample size and number of machines tested, possible teacher differences, and fatigue, since the final evaluation was conducted in one day.

An evaluation of several tasks was undertaken: (1) winding the bobbin, (2) threading the machine, (3) threading the machine needle, (4) inserting the bobbin into the bobbin case and bobbin case into the machine, (5) changing the presser foot, (6) changing the machine needle, (7) regulating stitch length, (8) adjusting tension, and (9) stitching plain seams, pivoting, and backstitching. Evaluation devices and directions for each task were developed and pretested on blindfolded college students during fall 1980. The materials were revised and again tested on blindfolded college students in preparation for the final revision. It was found that the sewing machine company instruction manuals needed to be greatly expanded for clarity when directing blind students. Task analysis was undertaken in the development of detailed directions for all tasks.

Each component of a task was timed and rated on a scale from 0 (unable to do) to 4 (easy to accomplish). Mean times and ratings were calculated for each task and a comparison was made among students and machines. The mean rating for all tasks and all machines was 3.28, with individual student ratings for all machines ranging from 2.86 to 3.71 and machine ratings ranging from 3.10 for the Bernina 803 to 3.52 for the Bernina 830H. It took an average of 220.47 seconds to complete all tasks, with individual student times ranging from 191.03 seconds to 304.06 seconds, and times for machines ranging from 164.69 seconds for the Viking 5530 to 319.03 seconds for the Singer 717. It was found that the Bernina 830H, Singer 2000, and Viking 6270 were rated as the top three models when highest ratings and fastest times to complete the tasks were compared.

In addition to examining ratings and times for each machine, an analysis of teacher and student comments was made. Each machine was found to have positive and negative features for use by blind sewers. Some of the special features were judged to significantly help the blind students while other features actually hindered their performances. Minor modifications, which would be helpful to anyone with visual limitations, could be incorporated into all machines, while not hindering general usage of the machine by sighted individuals.
Developing Independent Living Clothing Consultants

Jane M. Lamb, University of Delaware

A new course, Clothing for Independent Living, was offered spring semester 1981 to prepare students to serve as clothing consultants to disabled or elderly individuals. A problem-solving approach was used to present material related to physical, psychological, social, and economic aspects of clothing for people with special needs. Readings, classroom experiences, and written case studies exposed students to disabling conditions and clothing strategies. A field visit enabled students to become familiar with a rehabilitation setting. The term project required students to apply knowledge and skills in developing a complete wardrobe plan for a disabled client.

Twenty-four students enrolled in the course. Nineteen were upperclass undergraduates representing merchandising, design, and other home economics majors. The five graduate students were practicing professionals in extension, social work, counseling, and special education. Changes in students' attitudes were measured by pre- and posttest administration of the Attitude toward Disabled Persons Scale (Human Resources, Inc.). Yep's (1976) Knowledge of Clothing for the Disabled test measured knowledge of clothing features for functional limitations at the beginning and conclusion of the course.

The Sign Test indicated significant changes ($p < .05$) in students' attitudes and knowledge. Subjective evaluations by students and clients were used to determine the success of the client consultation experience. Students expressed satisfaction with the opportunity to apply knowledge in a helping situation. The majority of individuals who volunteered to serve as clients found the experience useful and enjoyable.

Visual, Nonverbal, Christian Symbols: Their Selection and Use in Decorative Media in Auburn-Opelika, Alabama Worship Environments

Judith Anne Hartley and Carol Warfield, Auburn University, Alabama

The primary purpose of this study was to design a communication process to aid the partnership among clergy, craftsman, and congregation in selecting and designing religious artwork related to a worship environment of a religious tradition. Another purpose of the study was to develop a communication process by which clergy and laity could inform the artist of the purpose(s) for which symbols and decorative media were used and the appropriate guidelines and selection process involved in a specific worship environment. In addition, the survey was intended to aid the artist in providing appropriate original artwork for a specific worship environment competitive with other supply sources of religious artwork.

Churches of six religious denominations in the Auburn-Opelika area, which has varying practices regarding the use of liturgy in the worship environment, were selected for the study. With the use of illustrations, each participant of the clergy and laity was interviewed concerning the use of selected visual, nonverbal, Christian symbols represented in decorative media in his/her religious tradition. The method and guidelines of selecting symbols and the media for representing these symbols in the worship environment also were explored. In addition, participants were questioned about their satisfaction with current guidelines and selection process used.

Findings of the present study concur with observations reported by authors.
in prior studies. Participants from all denominations expressed interest and willingness in responding to questions about use and selection of visual, non-verbal, Christian symbols represented in decorative media in their worship environments. All participants successfully communicated to the artist which symbols were used, which were especially important and frequently used in their religious tradition, and the decorative media used for each. Participants also reported satisfaction with the guidelines and process used in selecting symbols to be represented in decorative media for their own worship environment.

The use of symbols in decorative media was not limited to denominations traditionally known for using liturgical artwork. One third of the symbols viewed were indicated as symbols of importance or used frequently in the religious tradition of all participants surveyed. However, the decorative media and the purposes for which the symbols were used varied among the denominations.

The communication processes and guidelines used by a denomination to select symbols to be represented in decorative media involved both clergy and laity. Respondents expressed satisfaction with current communication and selection processes; their satisfaction was not related to type or degree of individual laity and clergy participation in the selection process.

Pressure Analysis as the Basis for the Design of a Business Suit Jacket for a Bicycle Commuter

Robin Lynne Garner, Cornell University, New York

The general purpose of this research was to design a suit jacket that a businessman could wear both while commuting to work on a bicycle and at work. Success of the design was measured by an objective analysis of the pressure the jacket placed on the upper body and a subjective analysis of wearer comfort.

To locate the areas of greatest pressure on a standard suit jacket worn by a male bicycle rider, three analyses were performed:

1. A pretest was conducted at the U.S. Army Natick Command using their Load Profile Analyzer (LPA). Five subjects were tested wearing a standard suit jacket constructed from a commercial pattern. Pressure readings were taken after the men mounted the bicycle and leaned forward to grasp the handlebars (the riding position) to determine maximum stress areas.

2. A muslin jacket was draped on a test subject who sat on a bicycle in the riding position. A pattern was drafted from the muslin and then compared with a commercial suit pattern.

3. Polaroid pictures were taken of one subject wearing the standard jacket as he sat in the riding position. These were studied to examine jacket set and origin and direction of wrinkles.

All three analyses indicated similar areas of stress located within the sides of the back below the shoulder blades and on the upper arm. Muslin prototypes were then developed to alleviate these stresses.

Three studies were performed to select the final design:

1. The muslin prototypes were evaluated using a portable load analysis system. Five models incorporating invisible zippers in existing seamliness were found to completely eliminate the stress in the critical areas determined by the initial analysis.

2. Twelve bicyclists in the Ithaca, New York, area were asked to don and rank order five muslin prototype models in terms of comfort and ease of operation. Two prototype models were favored.
3. A simple cost of manufacturing analysis was conducted for the prototypes. After considering the complexities of construction, two models were found to have lower cost than the other three models.

One model was successful in all three analyses and was selected as the final design. It was constructed in the same materials using the same general construction methods as the standard jacket and was evaluated with the standard jacket by 22 test subjects at the U.S. Army Natick Command.

The following analyses were performed to determine the success of the final design:

1. A subjective analysis of wearer comfort.
2. An objective analysis of pressure using the LPA and a supplementary arm band imbedded with sensors.

Three statistical analyses were used to analyze this post-design data with the following results:

1. Chi-square tests yielded results suggesting that age, height, weight, and body type did not have a significant relationship to pressure values in this study.
2. A t-test using the responses from the subjective analysis of comfort determined that there was a significant difference in the perceived wearer comfort of the two jackets. The mean value of responses indicated that the final jacket was perceived as being more comfortable than the standard jacket.
3. Results indicated that for all subjects, the final jacket placed less pressure on the upper body and arms than the standard jacket. Hotelling's $T^2$ tests using total pressure values determined that there was a significant difference between the pressure values for the two jackets.

The outside appearance of the cycling jacket is no different than a standard jacket when the center back invisible zipper is closed. When the invisible zipper is opened, the jacket expands fully to meet the bicyclist's movement needs. Therefore, it was concluded that the final jacket design met the criteria of increased comfort and appropriate appearance.

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**Clothing Design Complexity Preferences of Preschool Children**

Flora E. Cunningham, Rutgers University, New Jersey

The objective of this study was to investigate the complexity of children's clothing design preferences and to explore the relationship of complexity preference to age and sex. Complexity of clothing design was determined according to (1) the number of colors used in the design, (2) the number of major divisions in the design, (3) the symmetry or asymmetry in the use of color, and (4) the symmetry or asymmetry in the use of line. Using these criteria, five levels of design complexity were identified. Secondary objectives of the study were to explore (1) types of color scheme preferences related to age and sex and (2) shape preferences related to age and sex.

The complexity of children's design preferences was determined through interviews of 190 preschool children ages two and a half to five attending nursery schools or day-care centers in middle-class suburban locations in an eastern state. Children were shown designs of varying complexity for nursery school smocks and asked to choose the one they liked best. After choosing a design, the child was asked to select colors for it from a color wheel of the six primary and secondary hues. Finally, each child selected a triangle, circle, square, or rectangle for a pocket for the smock.

Frequency distributions of the entire group of children show that the
simplest and the middle level of complexity were chosen more often and the most complex level was chosen least often. Symmetrical designs were chosen more often than asymmetrical ones. Related color schemes were more often preferred than contrasting, and the pocket shapes in order of preference were (1) circle, (2) square, (3) rectangle, and (4) triangle. Data will be further analyzed using correlation and regression procedures to determine the effects of age and sex on clothing design complexity.

References:


Normalized Clothing for Mentally Retarded Residents of a State Institution*

Geneva H. Yadav, Theresa Hewett, and Barbara Minter, East Carolina University

This project was carried out as an internship for graduate students from the East Carolina University Department of Clothing and Textiles. The students were hired by Caswell Center to assist their clothing designer. Overall objectives set by the institution and the students were as follows: (1) to design clothing that would minimize abnormal functioning as a result of a handicap (physical and/or mental), (2) to emphasize normality through "normal" clothing, and (3) to meet federal guidelines or regulations required for federal funding.

During the designing process, the following problems were noted as unique to designing for severely mentally retarded individuals: (1) the individual's inability to communicate needs, comforts, and preferences, (2) multiple physical handicaps, (3) severe and acute figure distortions that made obtaining measurements difficult, (4) incontinency or other body function disorders that caused added bulk or garment opening problems, and (5) deviant behavior that affected or required adaptive clothing.

A systematic approach was developed for recording needed information for individual residents. Each resident who required adaptive clothing now has a
file card with the following information: (1) sex, (2) standard body measurements, (3) noted body distortions, and (4) noted deviant behavior. Additional information might include notes or comments from the health care staff who work with the residents on a daily basis.

In the design process the emphasis on normality meant that after the physical or behavioral problem had been considered, the final design or garment had to be fashionable in design and fabric, seasonal, modest, and appropriate for the individual's sex. A unisex approach did not seem to meet federal guidelines on normality.

The poster exhibit included the following examples of individuals who had adapted clothing:

1. A male resident, with scissored legs and semi-rigid arms in an upright position. He is permanently reclined in a prone position and is tube fed. Other residents tend to pull tube out of his stomach.

2. A female resident with feet problems. She possesses no arch, no heel, and large, extra-rounded, flat feet with a ball measurement the same as the ankle.

3. A self-destructive female confined to a wheelchair. Splints were used in an experimental treatment for control of self-destruction. These splints made of pipe insulation and dowel rods were used vertically to prevent the arms from bending. Covers were designed for them.

4. An active carrier (male) of a contagious disease with a bad habit of spitting into his hand. A glove made of one piece of fabric with fingers but no tips was designed to prevent problems occurring from the spitting habit.

5. A female resident confined to a wheelchair. She is incontinent but able to move from table to wheelchair by herself. Tops and dresses were designed. This resident has an extra large, unconfined bust over size 50. The breasts tend to hang to her waist at her sides. Design problems in normalizing her garments were overcome with some difficulty.

*Caswell Center, a North Carolina State Institution located in Kinston, North Carolina. Assistance of Charlotte Jones as the institution's Clothing Designer is acknowledged.
Eastern Region ACPTC Business Meeting Minutes
Philadelphia, Pennsylvania
October 23, 1981

The meeting was called to order by President Barbara Starke at 2:05 p.m.

Secretary Lamb read the minutes of the 1980 business meeting. The minutes were approved as read.

Treasurer Leatha Darden announced that her report was included in the registration packets for the conference. Members were advised that the savings account should be listed as the publications savings account.

President Starke summarized accomplishments of the past year regarding the six-point program she established in her plan of work: 1) preparation of an ACPTC-ER budget by an ad hoc Budget Committee; 2) development, by the Research Committee, of criteria and guidelines for research abstract submission and establishment of a proposal review procedure; 3) increased efforts to recruit new members; 4) support for establishment of a national journal, now approved; 5) development of better relationships with government through Mary Barry's efforts; and 6) planning a stimulating 1981 regional meeting.

Nora MacDonald reported on activities she and Jeanette Bowker initiated as Membership co-chairpersons to recruit members. Their goals were to encourage 1) non-renewals to return; 2) state textiles and clothing specialists to join the organization. A national membership brochure is being developed. Phyllis Tortora is the national membership chairperson.

Jo Paoletti reported the procedure used by the Research Committee in judging research abstracts submitted for the annual meeting. Through blind review, abstracts were scored on topic definition and interest, methodology, communication, results, and format. Lois Gurel, 1981 Proceedings Editor, stressed the need for coordination between those issuing the call for papers and those responsible for compiling the proceedings.

Highlights of the June 23 national council meeting in Atlantic City were distributed. In the national election, Phyllis Tortora was chosen President-Elect, B. Jean Margerum was elected Secretary, and Jo Ellen Uptegraft was elected Treasurer. By-law revisions will be included with the Spring 1982 ballot to members. In its first report, the Futures Committee recommended that a response to New Initiatives in Home Economics be drafted from the association. Deanna Munson, Newsletter Editor, will send a call for papers this Fall with a January deadline for April publication. Regions were asked to submit material for the Proceedings before presentation to facilitate publication production. Marjory Joseph is completing a history of ACPTC. Honolulu, Hawaii is the site of the July 5-9, 1983 National Meeting. The 1986 meeting will be in Houston, Texas. A general
Member business meeting was held on June 24.

Joann Boles announced that the publication manual for the Clothing and Textile Research Journal was approved and Marjory Joseph was chosen as editor. ACPTC Executive Board will serve as the policy board. The first issue (Fall 1982) will consist of invited papers from leading scholars; this issue will be used to solicit subscriptions from libraries and non-members. Financing for the journal will come from a 1980 national meeting surplus and regional publication accounts. At present, one issue is planned per year. Long-range plans include gradual increases to a maximum of four issues per year.

President Starke announced the meeting dates and sites for future meetings. The 1982 meeting will be October 20-23 in Atlanta, Georgia. The availability of hotel facilities determined the dates scheduled for that meeting. The next national meeting will be July 5-9, 1983, in Honolulu. In 1984, the regional meeting will be November 7-10 at the Greenbrier, White Sulphur Springs, West Virginia, scheduled to take advantage of more favorable hotel rates.

President Starke introduced ACPTC-ER council members. They are: Kay Obendorf and Elizabeth Rhoades, the new representatives; Barbara Starke, the new Eastern Region representative to national; Mary Ann Gaydos, who will complete Phyllis Tortora's term as regional representative to national; Phyllis Tortora, President-Elect of national council. A list of current regional council members was included in registration packets for the meeting. Anne Kernaleguen assumes the office of national president November 1, 1981.

Amelia Adams presented the evaluation forms to be submitted before the end of the conference.

President Starke reminded committee chairpersons to submit summaries of the year's activities. These reports will be shared with incoming committee chairpersons.

Lois Gurel requested that all speeches, permission forms, and identifying information for the Proceedings be sent to her as soon as possible.

Frances Duffield, 1981-82 President, clarified plans for the Atlanta meeting and asked members to complete the forms distributed for pre-conference suggestions. She announced that conference coordination activities will be handled by the University of Georgia Conference Center.

In presenting her plan of work, incoming President Duffield outlined the following objectives: 1) increased membership; 2) promotion of ACPTC to increase public visibility; 3) continuation of the Futures Committee; 4) continued support of association publications; 5) increased communication with members, other organizations, government, trade associations; 6) completion of a manpower survey; 7) presentation of a budget at the next meeting.
business meeting; 8) participation in the juried exhibit of textiles and clothing designs at the 1983 AHEA meeting in Minneapolis.

Invitations from the northern part of the region were solicited for the 1985 regional meeting. Possibilities are Newport, Rhode Island; Boston, Massachusetts; and Montreal. It was suggested that this item be included on the Spring ballot.

Nora MacDonald thanked outgoing President Starke for her excellent organization and coordinating abilities in leadership.

President Starke thanked all who helped her during the past year.

The meeting was adjourned at 3:00 p.m.

Respectfully submitted,

Jane M. Lamb
Secretary, ACPTC-ER
Eastern Region  
Treasurer's Report  
Association of College Professors of  
Textiles and Clothing  
November 24, 1981

Receipts

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<td>Balance on Hand, October 20, 1981 (publications savings account)</td>
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Disbursements

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<tr>
<td>University of Alabama - Printing Treasurer's Report</td>
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<tr>
<td>Barbara M. Starke - Printing Program</td>
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<tr>
<td>Evelena Parker - Typing</td>
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<tr>
<td>Barbara Starke - Postage</td>
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<tr>
<td>Frances Duffield - Xeroxing and Phone</td>
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<tr>
<td>Jack Lenor Larsen - Honorarium</td>
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<td>Hilton of Philadelphia - Coffee break</td>
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<td>Hilton of Philadelphia - Thursday lunch</td>
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<td>Hilton of Philadelphia - Payment in full</td>
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<td>Roger Gilvertson - Program Participant</td>
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<tr>
<td>Phyllis Feldkamp - Honorarium</td>
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<td>David Powderly - Program Participant</td>
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<td>Phyllis Tortora - Phone</td>
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<td>Jack Lenor Larsen - Travel expenses</td>
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<td>Owen Merideth &amp; Sons Ins. Co. - Bond insurance</td>
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<td>Robert H. Prisuta - Program Participant</td>
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<td>Registration refunds</td>
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<td>AHEA Action advertisement</td>
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<td>Transfer to Publications Account (savings)</td>
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<td>(repayment of transfer from savings to checking</td>
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<td><strong>Total Disbursements</strong></td>
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Balance on Hand November 24, 1981  
(checking account)  
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Balance in Publications or savings account  
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Transfer to Publications account from checking  
$ 500.00

Balance on Hand November 24, 1981  
(Publications Account)  
$ 4,159.38

Respectfully submitted,

Leatha A. Darden, Treasurer
Western Region
ACPTC Western Region

Officers 1980-81
Marilyn Horn, President
Janet Else, President-elect, Historian
Susan Kaiser, Secretary
Nancy Owens, Treasurer (ex-officio)
Chris Milodragovich, Nominating Committee Chairman

Board Members
Merry Jo Dallas
Dorothy Ettl
Ardis Koester
Amy Sinclair
Margaret Tigard
Barbara Uriu
Doris Wright

ACPTC National Executive Board, WR Representatives
Janet Bubl, Bylaws
Janet Else
Jean Margerum, Membership

Conference Chairpersons

General
Ardis Koester, Oregon State University

Program
Cheryl Jordan, Oregon State University

Registration
Nancy Bryant, Oregon State University

Local Arrangements and Tours
Anne Foster, Portland Community College

Hospitality
Janet May, Portland Community College

Audiovisual Equipment
Pam Ulrich, Oregon State University

Media Publicity
Susan Carter, Brigham Young University

Research Reports
Kathryn Hatch, Washington State University

Teaching Innovation Reports
Vivian Day, Lane Community College

Finances
Janet Bubl, Oregon State University

Proceedings
Anne Fehringer, Oregon State University

Evaluation
Naomi Reich, University of Arizona

Printing of Program
Amy Sinclair, University of Puget Sound
# ACPTC Western Region Conference

October 22-24, 1981
Portland, Oregon

## PERSPECTIVES AND PROSPECTS FOR THE 1980s

### Thursday, October 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-9:00 a.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Tour: Jantzen, Inc. - computerized pattern grading, marker making, and cutting</td>
</tr>
<tr>
<td>12:00 noon</td>
<td>Luncheon: Albertina Kerr Historic Home</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Tour: Atiye Brothers Rug and Furniture Cleaners - purchasing, cleaning, and repairing oriental and other carpeting</td>
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<tr>
<td>6:30-8:30 p.m.</td>
<td>Executive Board Meeting</td>
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<tr>
<td>4:00-10:00 p.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>8:00-10:00 p.m.</td>
<td>Welcome to Portland - social hour</td>
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</table>

### Friday, October 23

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-9:00 a.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00-10:15 a.m.</td>
<td>Presiding: Ardis Koester</td>
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<tr>
<td></td>
<td>Welcome: Marilyn Horn, President - ACPTC, Western Region</td>
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<tr>
<td></td>
<td>&quot;Education in the '80s: A Matter of Perspective&quot; - Dr. Judith Kuipers, Dean of Undergraduate Studies, Oregon State University</td>
</tr>
<tr>
<td>10:45-11:45 a.m.</td>
<td>Presiding: Shirley Friend</td>
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<tr>
<td></td>
<td>&quot;Improving Your Visibility: Public Relations&quot; - Dr. Mary M. Cramer, Account Executive, Karen Whitman Company, Portland, Oregon</td>
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<tr>
<td>12:00 noon-1:30 p.m.</td>
<td>Luncheon - seating according to interest groups</td>
</tr>
<tr>
<td>1:45-3:15 p.m.</td>
<td>Presiding: Ruth Clayton</td>
</tr>
<tr>
<td></td>
<td>&quot;Perspectives in Meeting the Needs of Today's Students: Innovative Teaching Approaches&quot; - Dr. Dean N. Osterman, Director, Instructional and Faculty Development, Oregon State University</td>
</tr>
<tr>
<td>3:45-4:45 p.m.</td>
<td>Teaching Innovation Report Sessions</td>
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<td>Presiding: Vivian Day</td>
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<td></td>
<td>&quot;New Audiences for Clothing and Textiles&quot; - Beverly E. Ledwith</td>
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<td></td>
<td>&quot;Teaching Clothing and Textiles Courses by Television Videotape&quot; - Nancy O. Bryant</td>
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<tr>
<td></td>
<td>&quot;Apparel Evaluation: Construction Learned Without Sewing&quot; - Susan G. Carter, Renee Thackeray</td>
</tr>
<tr>
<td>7:30-9:30 p.m.</td>
<td>Workshop: &quot;The Guided Decision-Making Approach to Teaching&quot; - Dr. Dean Osterman (Preregistration required)</td>
</tr>
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</table>

### Saturday, October 24

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>8:00-9:00 a.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00-10:00 a.m.</td>
<td>Presiding: Antigone Sutton</td>
</tr>
<tr>
<td></td>
<td>&quot;Merchandising: Strategies for the '80s&quot; - Walt Froman, Store Manager, Frederick and Nelson, downtown Portland</td>
</tr>
</tbody>
</table>
10:00-11:00 a.m.  Presiding: Jean Johnson
"Directions in the Development of Fashion Merchandising Curriculum in the '80s" - Dr. Kathryn M. Greenwood, Professor, Department of Clothing, Textiles, and Merchandising, Oklahoma State University

11:30 a.m.-12:30 p.m.
Presiding: Kathleen Moore
"Career Opportunities in Merchandising" - Barbara Pedigo, Director of Placement and Recruiting, Meier and Frank department stores

12:45-2:15 p.m.  Luncheon Business Meeting
Presiding: Marilyn Horn, President - ACPTC, Western Region

2:30-4:00 p.m.  Research Reporting Sessions
Session I - Presiding: Ellen Goldsberry
"Consumers' Responses to Children's Sleepwear: The Effects of Fiber Content, Flame Retardant Finish, and Price" - Rhonda Hughes, Margaret Rucker
"'50-Plus' Aged Consumers' Processing of Fashion Information from Mass Media" - Susan B. Kaiser, Joan L. Chandler
"Natural Resource Conservation: Clothing" - Lavone Matern, Jackie Thomas Williams

Session II - Presiding: Barbara White
"Competency Identification and Articulation for Fashion Merchandising Programs" - Linda B. Tucker
"Dye Penetration Behavior of Selected High Wet Modulus Rayon Fibers" - Vivian Davis, Rosalie R. King
"The Thrift Shop as a Source of Used Textile Products: An Alternative Marketing System" - Margaret Rucker

Session III - Presiding: Nancy Rabolt
"Clothing Symbolism in a Village in Southern Mexico" - Diana Ryesky
"American Pattern Drafting Systems for Men in the Nineteenth Century" - Linda Morton
"Effect of Ozone Pollutants and Ultraviolet Light on Cotton and Polyester Flame Resistant Fabrics" - Anne M. Fehringer

4:15-6:15 p.m.  Executive Board Meeting
Public relations is a field that each of you has experienced first hand. University professors are really like small business people—they invest in their field, promote their subjects, sell ideas, keep records, and evaluate results with the goal of becoming more successful entrepreneurs. As you move through that entrepreneur/education cycle you intuitively use public relations in varying degrees with varying success rates. Based on your conference title, I assume you want to increase your success rate. In fact, I made three assumptions based on the title:

1. You desire improved visibility.
2. Improved visibility is possible.
3. Public relations can help improve your visibility.

First, I will define public relations and describe the nature and role of the field. Second, we will look at a public relations program process—how to influence behavior, specific public relations techniques, and some hurdles that may limit improving visibility. Then I will suggest ways to either remove or lower those hurdles to improve your visibility.

Philip Lesly, a leading authority in the public relations field, describes the field as both a phenomenon and a necessity of our times. Tracing the field's growth, he sees that changes that have increased life's pace and altered behavior patterns, also have moved people into diverse competing groups that still need to work together. He believes that those same changes have been intensified by technology, education, mobility, and communications.

Communications blossomed in the twentieth century with motion pictures, radio, recordings, television, and computers. Now an individual can see it all—experience and evaluate it. This in turn makes the mass of people powerful and reduces the power and control of leaders. Because leaders must obtain acceptance of, or at least support by, the masses before goals can be reached, public relations came into being.

In its early life, public relations was known as publicity. That has changed with increased technological and education advances. First one group felt the necessity to tell others about itself. Then groups wanted to know what others think and how they could gain their good will. With that in mind, public relations can be defined as a field attempting to help "an organization and its publics accommodate to each other" (Lesly, 1978a). But public relations activities must be carried out in a socially responsible manner. It seems appropriate to add that phrase to our definition in this day and age when all of us struggle with ethics.

As we look at this definition, we need to define your organization and your publics. Your organization is easy because you have educational institutions in common. Defining your publics becomes a little more complex. We can start with Lesly's (1978) "Universe of Public Relations" and make some adaptations and comments. At the top of the "Universe," Figure 1, your alumni can be viewed as the stockholders. They do indeed have an investment—both loudly proclaimed, especially at sports events.

As home economists in land-grant institutions, international publics are familiar to you. Sharing skills and knowledge internationally is a deep part
of the home economics image as well as national spirit. International students enrich our lives and our expectations. This public is one in which we take great pride.

Industry relations equate to relations with other institutions of higher education. We meet each other at meetings like this one. We share information as well as intangibles such as emotional support, sympathy, and intellectual stimulation. Yet we must keep in mind that we also may compete with each other for dollars, faculty, students, and grants.

Figure 1: Lesly's "Universe of Public Relations"

Employee relations is certainly at issue these days and it seems too often neglected. If employees do not believe or understand organizational goals, the image to be projected is cloudy and conflicting.

Most of you do not often have direct contact with the financial community. It is an important public for us to recognize and one in which administrators are vitally interested. The financial community contributes through foundations, through services to employees and students, and through supportive volunteer efforts.

Opinion leaders and media relations are also publics that you may not often have direct contact with. Public information officers in your institutions work directly with the media, but you may have contact through interviews or work with the public information officer.

Consumer relations sometimes seems uppermost in the academic's mind. The awareness of this public has been dramatically increased in the last 10 years as students and parents have spoken out and as budget cuts have forced functional changes on institutions. Presently institutions seem to be in a defensive position.

Another aspect of consumer relations is the consumer of your product—the employers who hire your graduates. This aspect currently is being reached through development and implementation of field experience courses. Field experience success will eventually filter to other publics and may be one of the most suc-
cessful public relations techniques.

All institutions are increasingly aware of marketing communications. Advertising groups or agencies are being brought in as a greater need for marketing is felt. Professional organizations' publications also can serve as public relations/marketing tools that meet many publics on different levels.

Public affairs is a public with which you have a great deal of contact. Each of you participates in public service activities, some in governmental or political relations, and all in the area of minority relations.

Let's recap what we want to transmit to all these groups--our publics.

What are the objectives of public relations?

1. Projection of a favorable image so that our messages are received.
2. Employee good will to increase production and minimize labor problems.
3. Community good will to promote a positive atmosphere in which to live and work.
4. Attraction of the best new employees to secure the future of the organization.
5. Overcoming misconceptions and prejudices to increase productivity and communication.
6. Good will of sister organizations for cooperative efforts and future survival.
7. Promotion of services to attract consumers.
8. Directing the course of change for positive adjustment to new attitudes and expectations.

We can conclude that the field of public relations deals with the reputation of an organization. Each objective above could be a program by itself, but the reputation of an organization is indivisible. That makes the task of the public relations expert more difficult. The goal is that each objective will work in harmony with the others for a cohesive, logical program.

The process of developing a public relations program will sound familiar to you. Lesly (1978a) presents a schemata for the process called a "Public Relations Circuit," Figure 2. A public relations plan uses the same scientific method you use in your research. You review the literature, define the problem, devise a plan, implement the plan, analyze and evaluate the data, and draw conclusions and alternative hypotheses. The questions asked may differ slightly in terminology but the underlying process is the same.

![Figure 2: Lesly's Public Relations Circuit (1978a)](image)
In planning a public relations program, one helpful format, presented by Nelson (1981), is called the Information, Decision, Evaluation/Action (IDEA) marketing planning process. It lends itself to adoption for public relations. It begins with an analysis of the organization's background, problems, and opportunities. Then conclusions about the organization's current status are made. Table 1 presents the format and the critical questions for data collection. Once the conclusion stage is reached, objectives can be written. Those objectives are just like your old friends, instructional objectives. They are measurable, timed, and consistent with one another. Then strategy and specific tactics are defined in light of a budget that defines resources of time, energy, and money. Although it is a time-consuming process, it is important so that an evaluation can be made and, most importantly, all those participating can contribute and understand the program.

<table>
<thead>
<tr>
<th>TABLE 1. Information, Decision, Evaluation/Action Format</th>
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<tr>
<td><strong>BACKGROUND</strong></td>
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<td>Goals:</td>
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<tr>
<td>- What are the strengths &amp; weaknesses?</td>
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<tr>
<td>- What are our unique qualities?</td>
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<tr>
<td>Audience:</td>
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<tr>
<td>- Who should we reach?</td>
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<tr>
<td>- What are their characteristics?</td>
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<tr>
<td>Competition:</td>
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<tr>
<td>- Who else shares our goals?</td>
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<tr>
<td>- What are their strengths &amp; weaknesses?</td>
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<tr>
<td>Communications:</td>
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<tr>
<td>- What is the effectiveness of our current program &amp; what are the results?</td>
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<td><strong>PROBLEMS/OPPORTUNITIES</strong></td>
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<td>Goals:</td>
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<td>- What about our organization will help or hurt our ability to communicate?</td>
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<td>Audience:</td>
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<td>- Does their identity indicate how we can best reach them?</td>
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<td>Competition:</td>
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<td>- How do we compare?</td>
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<td>Communications:</td>
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<td>- Have we or our competition used effective communications?</td>
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<td><strong>CONCLUSIONS</strong></td>
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<tr>
<td>Goals:</td>
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<tr>
<td>- Are the benefits of our goals important?</td>
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<td>- Are the benefits clear and easily understood?</td>
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<td>Audience:</td>
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<tr>
<td>- Is it well targeted and defined?</td>
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<td>Competition:</td>
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<td>- How do their activities effect our plans?</td>
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<td>Communications:</td>
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<td>- What have we learned from our previous communications?</td>
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<td><strong>Image</strong></td>
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<td>- What is the perception of our organization?</td>
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<td>- What is the perception of our competition?</td>
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<td>- What is our desired perception?</td>
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<td>- Do we have a clear position?</td>
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<td>- Do our efforts support our image?</td>
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<tr>
<td>- Can our present image or desired image help us achieve our goals?</td>
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</table>

As we review the process, consider how behavior can be influenced. How can we motivate our publics to accommodate to us and at the same time maintain the receptivity and flexibility that allow us to be accommodating? Listening skills help maintain our receptivity. Also of particular importance are the skills of reviewing information before making judgments and evaluating discrepant ideas rather than automatically excluding them from our frame of reference. Recognizing and evaluating avant garde ideas are critical to our profession if we want to direct the course of change. Lesly reviews communication factors that influence behavior. A few comments will help define how we might use them in a public relations program.
1. Reporting changes in the relevant environment. A change that is readily perceived changes attitudes and behavior more easily. Two examples are the changes in fashion and the changes in family lifestyle. We tend to accept fashion changes whereas lifestyle changes have gained acceptance more slowly.

2. Enhancing existing patterns of behavior. Home economists determine information people want and then provide it. This can partially explain the continuing success of the extension service and educational institutions.

3. Developing new interests and new attitudes as well as new patterns of behavior. This method also is employed by the home economics extension service and educators in relation to technological developments. For example, microwave ovens were used in food preparation classes prior to their acceptance in the marketplace.

4. Activating existing attitudes. Most of us have dormant attitudes that can be activated through persuasion. A classic case is when we are persuaded to attend a family or college reunion at great cost and effort.

Another area for our review is public relations techniques, which includes:
- news releases
- quotes, mentions, short items about what people are doing
- endorsements by authorities or opinion leaders
- reprints, brochures, direct mail
- by-lined articles or regular columns
- research papers or books
- press kits, fact sheets
- newsletters
- speeches or seminars

If you consider your list of publics and make a list of techniques for each, I know you will find public relations activities are already a large part of your life. We are, however, searching for ways to improve your visibility.

What are the hurdles that limit improving your visibility? The first is employee relations, our internal environment. The pace of change, the demands for performance, and the stresses of managing professional and personal lives all take a toll. That toll may result in negative feelings of "I'm too busy," "Not something else to do," "I'm tired of being pushed," or "They ask too much." This is an indication that we have lost objectivity and a positive perception of ourselves, our colleagues, and our institutions. The second hurdle is that negative attitudes tend to spread into our personal feeling about ourselves. Therefore, we develop behaviors that limit our visibility. Hennig and Jardim (1977) reviewed these in their book, *The Managerial Woman*.

We can use Hennig and Jardim's attitudes and behaviors to improve our visibility.

1. Choose yourself as a worthy person to introduce to a new person or a new activity.
2. Use your initiative; don't wait to be told what to do.
3. Clarify your personal goals.
4. Search for ways to handle anxiety when you deal with the unknown.
5. Begin to take small risks so the large ones are not so frightening.
6. Accept criticism in good faith; remember the only time you are not going to be criticized is in another life.
7. Remember that perfection does not exist, humanitarianism does and it is lovely to touch, see, and feel.

Those are major tasks. Take one at a time and enlist your co-workers and
friends in a cooperative effort to develop positive attitudes about your situation and yourself.

The next step is to use a format, maybe the IDEA mentioned earlier, for a public relations program. Find out what is being done, talk openly about the overall program, and evaluate it as well as your role. As you evaluate you will be able to see where, when, and how your unique skills and abilities contribute to the overall public relations program. That, in turn, will reinforce your feelings of competence as well as your positive attitudes.

No doubt you will find areas in the public relations program that need attention. It may be that you need to find media contacts for publicizing a professional meeting. Contact your public information officer or volunteer to be the publicity chair for a meeting. The media depend on people to inform them of news items. They will welcome your call. A publicity "how-to" book is included in the references, but there are several in most libraries. Review the techniques and evaluate and improve the current status of public relations in your institution.

There is one more avenue through which you can improve your visibility. Start with the belief that you are an interesting, competent person with interests beyond the professional arena. Select several organizations and attend their meetings. Choose at least one that you enjoy and join it. Participate in its activities. It may be an advertising group for those in fashion merchandising, a literary group for those doing research and writing, or a community group for those interested in human services. Look at what is available in your community and nearby communities.

By building your network, you will improve your visibility both professionally and personally. You have more to offer your publics than most individuals or organizations. I urge you to expand your public relations activities and reap the rich rewards.

References:

Martinez, Barbara F. and Weiner, Roberta. The How-To Press and PR Handbook or I Like Your Song and Dance, but Is It News? Washington, D.C.:
There was a time when people knew, or at least thought they knew. Graduating high school seniors were at the top of the heap. They knew it all. Then, shortly thereafter these seniors entered college and found to their dismay what they didn't know—everything! Then, for the next four years they struggled through a four-year degree with the task of re-wiring their learning routes, channels, and experiences to learn by a new method of noninvolvement, participation, and experience. After graduation, they then needed to un-wire those techniques and wire back to meet the needs of the real world. Sound familiar?

Somewhere between college entrance and graduation, it is assumed that students' learning needs are met by providing them with experience, practice, and knowledge fulfillment. That assumption is an assumption.

Until now higher education has been an easy-undertaking experience. You obtain what you can; experience what you desire. Winners are the graduates who were predicted to be in line for the diploma exercise; the losers are those students that higher education worked so hard to rule-out, weed-out, to fail. The stories and examples of this are real and accepted. The fact remains that colleges and universities exist for either passing or failing students. To qualify the graduates as winners, a successful trademark of institutions, a certain percentage of students must fail.

In higher education, the science of student academic prediction is decades ahead of the science of education and learning because in prediction accuracy lies the promise of institutional success. But a new trend lies ahead. Quality education of the future will be measured more at the process level—

Following business-type marketing strategies and analysis, several colleges
and universities are beginning to find out more about their audiences for recruitment and retention purposes. Data being gathered include students' learning routes, values, likes and dislikes, learner capabilities, and most effective methods and techniques of instruction. This movement has not caught on everywhere. Recent studies indicate that most college and university instruction (80%) doesn't adequately match teaching and learning styles (2).

Other reports of learner characteristics are not applied directly in the classroom. Studies out of Michigan have indicated that today's learners are more visual as opposed to auditory (3). However, the majority of instruction is taught in the lecture mode with little learner involvement other than listening and recording notes.

Learning theorists such as Robert Gagne and Jean Piaget will agree that higher education can prepare the winners (graduating students) more sufficiently and "salvage" the losers (failing students) by providing concrete learning stages and structures that guide students to achieve more formal forms of thinking. Gagne advocates teaching more skills from a mastery of the least complex up to the higher levels in accordance with a hierarchy of learning skills (4). Thus he would build in meaningfulness and familiarity while insuring mastery or prerequisite skills so students would eventually be able to understand highly abstract concepts and procedures. He would probably insure success by making certain that students master the lower level knowledge, skills, and abilities before moving on to the next level.

When students assume a more active role in learning situations, research has demonstrated an increase in learning and attitudes (5). In most conventional classroom teaching situations, students are actively involved only 20 to 30 percent of the time.

In traditional classrooms, too much responsibility for the educational process is retained by the instructors, who determine the goals, decide and present the content to be learned, test for recall and understanding, identify problems to be solved (usually problems with only one solution rather than real-life problems with many possible solutions), and evaluate the students' performances against their (not the students') standards and criteria. Students are included very little in these activities and cannot, therefore, feel much responsibility for them.

Traditional teaching methods, most of which are centered around the lecture approach, do not promote the kind of involvement and responsibility needed. The chief value of such a lecture is information transmission (an inefficient means of achieving this objective) or in the interest, excitement, and stimulation generated by an enthusiastic instructor. But such instructors are rare, and even a series of good lectures can become boring. Students are still required to be passive, always at the receiving end of the learning process, never as the initiators. They do not assume responsibility for their own learning, and are not involved in evaluating what has been learned.

It is no wonder, then, that the typical student's goals are to psych out the instructor, meet the requirements of the system, obtain passing grades, and graduate. The graduate has "won"—beaten the system. After graduation students may find some freedom for self-expression and self-determination if they have not become hopelessly addicted to mediocrity and conformity.

Faculty complain about the lack of motivation, initiative, responsibility, vision, interest beyond assigned tasks, and imagination in their students, but they are only dimly aware of the fact that they, with their methods and attitudes, are creating and perpetuating this condition. Students weren't born this way.
Instructors try to pass some of their enthusiasm on to the students (if any is left), try to inspire a love of learning. But the rewards remain largely in grades, achieved by submitting to the demands of a system defined and developed by someone other than the student. Students see little opportunity for self-expression or creativity. It is no wonder that they are often rebellious and irresponsible, that creativity is directed into unproductive or destructive channels. If they do not drop the class, their goals then become to tolerate and beat the system or to achieve the rewards available through submission and conformity.

College students who manage to survive and succeed in the traditional system are poorly prepared to enter the real world in which they have to actively learn on their own, think, and solve problems. The adjustments are often difficult to make, and require considerable time. Employers blame the college teachers; instructors blame the parents. Everyone blames the students.

Teachers are not to be blamed for receiving little or no instruction or guidance in curriculum design training and teaching methods. Thus, they continue to do what was done to them. Particularly after they obtain tenure, they are free to do whatever they wish in the classroom, perpetrating on a captive audience the same deadening series of lectures year after year. It is no wonder that they resist anything that might affect the status quo.

In terms of meeting the needs of students, colleges and universities must recognize the trends in education:
1. There is a changing nature of students. They are more visual, different, and have more options, opportunities, and mobility available.
2. We need to recognize the psychological learning conditions and adapt our thinking to the needs of humans, not machines.
3. Subject content materials are expanding to several disciplines. The subject areas are no longer clearly defined.
4. We need to relate subject disciplines to real-world situations.
5. Faculty roles are changing—we have more responsibility, directives, and demands. How can we manage our time best to benefit students?
6. Newer learning resources are available to supplement teaching.
7. New teaching methods (alternatives) need to be applied to enhance student involvement and learning.

Students are changing in their learning routes and subject content needs. An adjustment is necessary to meet their needs by alternative teaching and learning approaches. Such alternatives as Feedback Lecture, Audio-Tutorial, Personalized Systems of Instruction (PSI), Guided Decision Making, and Computer Assisted Instruction can provide different learning routes and benefits for both student and instructor (6). No longer can we be content to maintain the traditional role of just passing and failing students. The teaching and learning process between entrance and graduation must be examined, adjusted, and broadened to meet the diverse conditions and needs of today's, not yesterday's, students.

References:
3. Ibid.
I will begin by telling you a little about my background so you can appreciate where I'm coming from. I started college at Oregon State University in pharmacy, but I had one basic problem. I didn't understand chemistry and I couldn't use the slide rule. I was advised and encouraged to go into liberal arts as quickly as possible. I ended up in journalism at the University of Oregon. After I graduated, I looked for a job in advertising, but I couldn't find much. I'd worked as a stock boy for Ludman's department store between my sophomore and junior years in college and I had made some good contacts there. So when I graduated from college, I interviewed for their management trainee program. That year there were only three positions available and I was fortunate enough to get one of them.

So one day I was taking off my cap and gown; the next I was in the bed and bath department as the assistant buyer. I managed the selling floor, did a lot of promoting, hauled cases of sheets and towels, put up signs, and checked ad copy. I must have done all right because about five months later the buyer retired and the divisional merchandise manager promoted me to the boys' wear buying position. The next Sunday morning I was on a plane to New York. I was 22 years old and I had a quarter of a million dollars in my pocket to spend. Fortunately Ludman's had a New York buying office. I worked with these people, so it wasn't as if I were just thrown out on 7th Avenue all by myself.

I merchandised boys' wear for a year and a half. Back then, most boys' departments were divisions of men's wear. That is, men's resources were purchased for the boys' department. The customer would end up with a little boy who looked like a mirror image of dad rather than one who had his own identity and wardrobe individuality. When I realigned the resource structure, I brought in definite kids' resources and we had a very successful Tom Sawyer/Johnny Whittaker fashion presentation for the holidays. Do any of you remember that curly red-haired kid that was on Family Affair and Pete's Dragon? Anyway, I hauled him around to all seven stores on a December weekend. It really got the momentum going and we had a successful Christmas. Also, I learned a lot about delegating and assigning responsibility.

Next, I merchandised young men's fashions during an explosive growth period when Britannia jeans came on the scene. I bought 400 pairs of jeans, stuck them on the shelves, and they sold in a weekend. It was incredible. That was the start of Britannia. Until then, the young men's market consisted of shrink-to-fit Levis, t-shirts, and flannel shirts.

My last buying job was merchandising men's moderate sportswear, better
sportswear, outerwear, and active wear, which was about a $2 million responsibility, for seven stores. I traveled constantly; I was in New York and Los Angeles, and I even went to Europe, which was really exciting. I also had two full-time assistants. It was just when men's wear started segmenting. It used to be that one or two buyers bought everything for men. Now there are buyers for moderate buying, better buying, and even the active department is separated. That's the wave of the future. A department store used to have 20 to 25 buyers; now it has 75 to 100 buyers buying essentially the same things.

During my days of buying, I really kept in close contact with the selling floor. I was always interested in customer service, merchandise presentation, and everything else associated with selling. They had a hard time keeping me off the floor.

For the first two years, buyers also managed the downtown selling floor. Then they appointed department managers so buyers would treat downtown as a branch. (When buyers are responsible for the selling, they have a tendency towards favoritism.) But real business was out in the suburban branches and that's where a lot of attention needed to be focused. The opportunity to be the assistant store manager at Washington Square arose and I jumped at that. Next I went to east Port Plaza for about six months to work with a store manager who was excellent at expense control.

Then I was promoted to store manager of the Valley River store in Eugene and moved my family down there.

In my job I spend about 95 percent of my time on the selling floor. It really has helped generate a good spirit and sense of camaraderie. The sales people really like it when they see the boss there with his coat off and his sleeves rolled up moving merchandise.

Now, I'm entering my second decade of merchandising and I've seen great, great changes. I'm going to talk about the men's wear market because that's what I know most about in the '70s. The '70s saw fast and faddish, basically budget-priced lines. Fashion included leisure suits, nylon print shirts, PVC jackets, pooka shells, and lots and lots of polyester. The junior market was booming, young men's fashions were beginning to take off and the pantsuit was still going full-speed ahead. The piece goods market was developing new fabrics and new treatments to old fabrics. Skirt lengths were going up and down; lapels were going out or in. A lot was change for change sake (and there's nothing wrong with that)---it was all part of the '70s.

Early in the '70s there were four major trends in men's wear. One was the leisure suit, which totally revolutionized the market. Another factor was nylon print shirts, worn with leisure suits. Third was the sweater-vest, layered over the print shirt when you weren't wearing your jacket or worn with your jacket. Fourth was the color burgundy, which was selling as well as navy. As a merchant I zeroed in my dollars on those major trends and promoted them at regular and sale prices. Merchandising wasn't that difficult because the market was so decisive regarding what would sell. Assortments didn't have to be that broad as long as you had leisure suits, print shirts, sweater vests, and had a lot of burgundy.

Then came the '80s and customers began to change. They gained maturity, fashion awareness, sophistication, and a clearer self-image. They were more interested in themselves and their immediate surroundings than were customers in the '60s and '70s. In the late '70s, the trends of the '70s decade became dominant. Customers were no longer flocking to buy print shirts and leisure suits and merchants had to change. We had to start carrying broader assortments of better merchandise.
In women's wear, there's a lot more change in the accessory market now than there is in apparel. A lot of this has to do with the economy. A nice women's suit is $200 to $300. On top of that, you're spending $150 to $200 for accessories—shoes, handbag, blouse.

Polyester is still king, and probably will be forever, but the upper moderate to better markets are becoming a much bigger piece of the total merchandising pie. This isn't just true for Frederick and Nelson's, it's all over the northwest and America.

What can retailers do to meet customer needs? We have to carry broader assortments of merchandise. This means bigger inventories that cost more dollars. But how do we do this in a tight economy? We zero in on our best performing classifications and departments. We eliminate the fringes. Some departments, like handkerchiefs, have gone by the wayside.

Previously, a women's buyer, looking at fall would say corduroy is a good market direction and buy from several lines. Now she may only buy one. (This should give the buyer clout in dealing with the resource for terms, advertising money, markdown money, if that is necessary, return privileges, whatever. We zeroed in on fewer resources, and we now mean a lot more to these resources than we did in the past.) Now, with this corduroy buy, we've got the moderate, traditional customer taken care of in corduroy.

But corduroy is also important to the moderate, updated customer. This is where the divisional merchandise manager steps in and works on market segmentation. The best thing to do is buy something that pleases both markets. It is possible to please both the traditional and updated customer by varying the accessories that go with the buy. The point is that a department store has to please a diverse range of customers to maximize investment return.

But we have to get the customers in the door first. We have to advertise, inform, and educate the customer. Advertising now includes newspapers, magazines, TV, radio, direct mail, statement inserts, personal calls and invitations, billboards, and transit ads. Budget guidelines for advertising are set up front at the buying table. When we buy a group or a line of merchandise, we have to conceptualize what it will look like in our store, be aware of fixtures that are available, and know and plan how we are going to promote it. That's very, very important. The best buys in the world aren't going to sell if the public doesn't know about them. We have the best assortments, we've advertised to reach the most customers effectively, and we have them in the door. Now we have to entertain them.

That's where my job as the store manager comes in. As proficient as our buyers and merchandise managers may be, many competing stores end up with similar merchandise. The customers want cleanliness and organization. They want to believe in the store, to feel the store has direction. They want to trust the store and feel that the sales associates know what they're talking about. Professional attitudes are really very important and that's where many stores lose out.

A store must hire, train, and develop professional people and pay them professional wages to keep them. I've seen time and again how we've trained people who looked good but fall apart on the floor because they were intimidated by the sales terminal and policies and procedures. For years we've trained our people to make a register sale, but we haven't taught them how to be salespeople. Now more and more of us are getting involved in that.

We're going to teach them how to be professional salespeople, use business and telephone etiquette, and coordinate merchandise. Our customers have the right to expect this from our stores and our salespeople. They want guidance
in selecting merchandise.

In summary, my merchandising strategies for the '80s are--(1) a merchandise assortment that appeals to a broad customer base and to the updated and better merchandise customer; (2) an efficient advertising mix, preplanned at the buying table with emphasis on electronic media. (Newspaper is still king--for our most successful events we've run newspaper ads with radio and television. It is very expensive, but it's the way to reach the total market); (3) a clean, well organized, and aesthetically pleasing atmosphere in which to shop, free from extensive displays and signs that often distract from the merchandise; (4) professional, well-trained sales associates who can relate to their customers; (5) services that make it easy for the customer to buy in the '80s--credit plans, bank cards, easy check acceptance.

We recently began accepting the two major bank cards, Visa and MasterCard, and it immediately accounted for a 14 percent increase in business. We were afraid we would lose our own Frederick and Nelson charge customers, but we still have a great incentive for getting one of our charge accounts--our own customers get advance notice of store events.

There are also economic factors to consider. There is 15 percent unemployment in my market, but 85 percent of the people are still working. It's not that the glass is half empty, it's half full. We approach it in that manner and work longer, harder hours with our people. In turn, we have to offer them more incentives and commissions. We have to advertise more, and promote more to get the traffic in but if the values are there, then the customers will respond.

DIRECTIONS IN THE DEVELOPMENT OF FASHION MERCHANDISING CURRICULUM IN THE '80s

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A compass is used to determine direction on a storm-tossed sea. We are indeed in need of a compass on the turbulent academic sea of home economics. In recent issues of the Chronical of Higher Education and the Journal of Home Economics, Watkins (1) and Green (2) referred to home economics' cooking and sewing image and the fight against the current. Based on these articles and concerns of other home economists, our compass, may indeed, be broken.

Home Economics in Business was one of the new directions plotted in the guidelines for home economics in the 1960s. Fashion merchandising programs began to emerge along with interior design options. Young men were in prominence in some of these programs as well as in hotel and restaurant programs. But what has happened to support for home economics in business programs? Academic sanctions seemingly were withdrawn in the fervent concern for the family as a central issue for home economics. Student interest and demand, however, has increased in terms of career-oriented curriculum and job opportunities in business.

No longer is home economics education the stronghold for student enrollment.
As pointed out in the study by Harper (3) "home economics, for the most part, moved from a generalized field of study to specialized areas of professional education." The following chart illustrates Harper's findings. Therefore, home economics curriculum that focused primarily on educating teachers in the past must now be reevaluated in light of students who want to prepare for careers in the business world.

The winds of change in career goals have stirred the academic sea in home economics. To paraphrase Turner's (4) quotation in 1969 about curriculum development "there is more discussion both within and without the home economics (education) profession today than ever before concerning the curriculum, what to do for, and with it." In recent years student enrollments in fashion merchandising programs have increased dramatically in most home economics units at the higher education level. Curriculum requirements for fashion merchandising majors, for the most part, have had a base in clothing and textiles with supplementary components in marketing, finance, management, and other business areas.

On the basis of student enrollment trends, I suggest a career-oriented compass for fashion merchandising programs. Directions for improving fashion merchandising curriculum can be determined by using a career-oriented compass and considering five approaches to the harbor in the turbulent sea: systems approach, internship approach, educational technology approach, faculty renewal approach, and student guidance approach.

Systems Approach

The systems approach is concerned with determining what information is
needed to improve the curriculum. Three steps in the systems approach involve establishing career-oriented competencies, implementing curriculum changes, and planning continuous evaluation. The systems approach is an adaptation of the process developed in the curriculum study by Greenwood (5).

Systematic Approach to Improvement of Curriculum

<table>
<thead>
<tr>
<th>Stage I Establishing Career-Oriented Competencies</th>
<th>Stage II Implementing Curriculum Changes</th>
<th>Stage III Planning Continuous Evaluation</th>
</tr>
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<tbody>
<tr>
<td>• Identify positions in career clusters</td>
<td>• Prepare revisions to job-related competencies for existing courses</td>
<td>• Propose periodic updating of job responsibilities</td>
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<tr>
<td>• Research responsibilities associated with the positions</td>
<td>• Propose content for new courses that contribute to job-related competencies</td>
<td>• Assess students' achievement in required courses</td>
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<tr>
<td>• List instructional objectives for existing departmental courses</td>
<td>• Request deletion of departmental courses not related to job-oriented competencies</td>
<td>• Obtain periodic reactions to curriculum from business advisory group</td>
</tr>
<tr>
<td>• Formulate job-related competencies contributed to by existing departmental courses</td>
<td>• Suggest additional courses in job-related discipline area</td>
<td>• Obtain periodic reactions to curriculum from alumni</td>
</tr>
<tr>
<td>• Identify courses in other discipline areas that contribute to one or more job-related competencies</td>
<td>• Plan new departmental courses that contribute to job-related competencies</td>
<td>• Consider opportunities in new career areas</td>
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Establishing career-oriented competencies. Two kinds of information are needed to establish career-oriented competencies.

(1) Job-related information is obtained by retail surveys to determine job opportunities in career areas, buyer interviews to establish job descriptions and promotional ladders on career clusters, and direct observations of on-the-job experiences.

(2) Course-related information is compiled by faculty interviews to determine instructional objectives for required courses in existing curriculum and by student surveys to assess academic achievements in required courses. According to Copa (6) "no matter how information is gathered it must be put together in a pattern that facilitates judgment based on the decision-making process."

Fortified with information about job responsibilities in career clusters, competency statements can be formulated and compared with instructional objectives and student achievements in courses in the existing fashion merchandising curriculum. Course revisions can be considered and additional courses proposed to contribute to the development of competencies not achieved in the existing curriculum.

Implementing curriculum changes. Faculty, students, retail advisers, and alumni should be involved in implementing changes in curriculum. Administrative actions to improve curriculum should have the support of both subject-matter area and related business field. Curriculum improvements can be achieved by requesting specific revisions in existing course content to contribute to competencies.
tencies related to career-cluster positions. Courses not related to job responsibilities can be deleted from curriculum requirements and suggested as electives. Additional courses with instructional objectives based on one or more new career-oriented competencies should be included in final recommendations for improving the curriculum.

Planning continuous evaluation. Job responsibilities associated with positions in the career cluster should be updated periodically. Student achievement in required courses must be assessed systematically and opportunities in new career areas investigated as changes take place in the American economy. Goldstein (7) pointed out federal guidelines that indicate vocational programs should be evaluated according to the extent to which graduates "find employment in occupations related to their training and are considered by their employer to be well trained and prepared for employment." Similar guidelines apply in evaluating career-oriented curriculum.

Howe (8) stated a number of assumptions about the three missions of higher education for women--vocation, freedom, and knowledge. One of the assumptions suggested that "if we would see the effect of the curriculum demonstrated, we need to examine the work force because education in a democratic society prepares people for work."

These concepts about education and work can be applied to the development and evaluation of career-oriented college programs such as fashion merchandising. Open communication should be maintained between faculty and business representatives. Retail advisory councils, alum advisory groups, and other on-campus and off-campus activities should be employed to provide ongoing dialogues and continuous feedback for curriculum evaluation purposes. In summary, the systems approach to improving curriculum included establishment of career-oriented competencies, implementation of curriculum changes, and planning for continuous evaluation.

Internship Approach

The achievement of career-oriented competencies can be expedited by using the internship approach to fashion merchandising curriculum improvements. According to the study by Swerdlow (9), retailers "view the internship as the second most important part of the curriculum." Swerdlow reported that 84 percent of the retailers interviewed for the study "thought that students with cooperative education experience (internship) had a distinct advantage over those entry-level management trainees without this experience."

Some type of internship was required for undergraduate programs in approximately two-thirds of the 148 college of home economics units reported in a study conducted in 1978 by the AHEA Issues Committee on Professional Development (10). A large majority (97%) of the interns in these programs received academic credit.

Existing internship programs. A follow-up study made by Scott (11) involved 124 colleges that were implementing internships in the textiles and clothing area. Approximately half (55.36%) of the respondents indicated that internships were required for graduation while internships were optional in the other programs (44.64%). Approximately half (55.36%) of the programs offered flexible scheduling of internships as opposed to specific time blocks (credited work experiences). Students were compensated for the internship in approximately two-fifths of the programs (70.69%). In approximately three-fourths (72.41%) of the programs, faculty supervision of interns was accomplished by personal visits at the worksite.

Methods used in evaluating interns for credit purposes included employer appraisal (96.55%), on site observation by coordinator (72.41%), and logs
and reports (63.79%) by students. Grading systems used for internships in fashion merchandising were predominately letter grades (82.76%); only 17.24% of the internship programs used a pass/fail or satisfactory/unsatisfactory system or a combination of the three systems.

Internship problems most often identified by the respondents included the following: (1) allotment of time and money for faculty supervision, (2) inability of students to initiate learning experiences in a systematic way on the job and apply subject knowledge to work situations, and (3) lack of opportunities for students to observe and/or participate in kinds of learning experiences required for the internship and lack of time and effort on part of supervisor/employers to train students and evaluate job performance. There was no significant difference in the kinds of internship problems perceived by the respondents and the length of time the internship programs had been in operation (1-3 years, 4-6 years, 7-9 years, 10 years and over).

Findings from the two studies point up the need for more emphasis on the contributions internships can make in the development of career-oriented competencies associated with fashion merchandising curriculum requirements. Faculty responsibilities should be recognized in terms of the development of competency-related performance goals for interns and achievement-related evaluation systems. Academic time and money must be allotted so that faculty can assume responsibilities for coordinating internship programs. The internship approach to achieving career-oriented competencies can be more effective as progress is made to eliminate administrative, student, and employer-oriented problems.

Assessment of internship programs. The role of the faculty coordinator is multifaceted, requiring expertise in counseling and placing students, evaluating and preserving academic goals, and working with employers in the business setting. Faculty coordinators for fashion merchandising programs should have background experience in both academic and related areas of business.

Internship programs have important benefits and contributions in terms of students' academic background, university linkage to the real world, and employing institutions' access to young, enthusiastic workers with new ideas.

Internship program quality is reflected in the policies and procedures related to counseling activities and services, academic goals, placement process, program requirements, student progress assessment, advisory committees, public relation efforts, and student and employer follow-up. The following check sheet lists qualities of effective internship programs in more detail.

**CHECK SHEET**

Development and Evaluation of Internship Programs

Qualities of effective internship programs are evaluated by statements of policies and procedures related to the following (consider both present status and future plans):

1. **Counseling Activities and Services**
   - Student career information
   - Awareness of service orientation aspects of merchandising careers
   - Realistic view of career cluster; recognition of rewards and liabilities
   - Academic curriculum advisement
   - Efficient schedules for required courses
   - Individual plans for meeting internship requirements
   - Personal advisement
   - Measures of student aptitude, personality, etc.
   - Construction of agenda for students' personal development

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2. Academic Goals
   Coordination of university, college, and department goals
   Incorporation of home economics philosophy
   Consideration of students' professional goals
   Specification of career-oriented curriculum objectives

3. Placement Process
   Optimum use of available placement services
   Student awareness of job application skills
   Procedures for matching student abilities with job openings
   Systems for updating job information
   Records of student placement and employers
   Coordination of "on campus" recruitment efforts

4. Program Requirements
   Consideration of students' career-oriented goals
   Incorporation of academic objectives in subject-matter and root-discipline areas
   Establishment of credits and requirements for internship
   Identification of career cluster competencies
   Specification of performance skills for entry level
   Recognition of human relation skills for job
   Transfer of theories and principles to realistic work settings

5. Student Progress Assessment
   Process of student self-evaluation
   Procedures for student performance evaluation by work supervisor
   Opportunities for training station evaluation by students and teachers
   Guidelines for confidentiality of student evaluation
   Record system for students' evaluations and grades
   Specific evidences of student achievement on-the-job

6. Advisory Committees
   Feedback system for policymaking
   Opportunities for professional input and contributions
   Periodic review of curriculum objectives and course content system for updating career goals

7. Public Relation Efforts
   Dissemination of information about internship programs in community
   Recognition and appreciation of employers
   Newsletter to alums and friends of the program
   Activities to strengthen employer and community relations

8. Follow-up of Students and Employers
   Current employment records of alums
   Periodic alum survey update of job responsibilities
   Satisfaction with present position
   Suggestions for revisions in professional curriculum
   Future career expectations of alum
   Satisfaction of employers with internship program
   Satisfaction of employers with academic requirements
Educational Technology

A third approach to the improvement of a fashion merchandising curriculum is concern with education's responsibility for developing learning materials that are student-oriented rather than teacher-oriented.

Faculty as facilitator. The role of faculty in higher education today is rapidly changing from traditional lecturer--disseminator of theories and principles--to facilitator--provider of educational assistance to students pursuing occupationally-specific careers. Learner-centered materials are the result of educational research processes rather than textbook adoption. Tomorrow's teachers will of necessity become editors, digesting knowledge and producing learning guides that contribute to developing occupationally-specific career-oriented competencies.

Learner-centered education. Several concepts are involved in learner-centered education. One we have already alluded to, competency-based; the second, individualized instruction, has been used in many learning systems, and the third, the open entry-exit concept, has not yet been implemented successfully into our educational systems at any level. The term occupationally-specific has become part of career education vocabulary. The fifth term, individualized materials, describes the nature of learner-centered education. Definitions of each term follow. These concepts could well be integrated into the educational technology approach in developing unique learning materials for fashion merchandising courses.

Students are the "raison d'etre of curriculum," as pointed out by Garner and Acklen (12) in the article "Involving Students in Curriculum Planning." Nevertheless to improve a competency-based fashion merchandising curriculum, experts in businesses related to students' career goals must be involved in the research process. Learning materials based on academic knowledge must be developed and evaluated using input from business experts. Education, thus, can become more relevant in terms of students' career-oriented goals and graduates can more effectively move from the college world to the work world.

Currency in the classroom. In recent years, audiovisual technology has made it possible to increase the exchange between academia and business. The telelecture is a cost- and time-efficient method of using experts in the retail field regardless of geographical distance. Top executives can speak by telephone to a group of students on a college campus and thus, provide the much needed update of textbook information. Alumni in executive/management positions make excellent role models for students via tele-lecture learning. Videotaped interviews with prominent retailers in the community supply students with realistic information about current merchandising policies and local marketing problems. Audio-tutorial laboratories serve as informal learning centers and contribute to the ongoing development and use of educational technology to ensure currency in the classroom.

Educational Concepts

1. Competency-Based Education -- educational programs in which required performances are specified and agreed to in rigorous detail in advance of instruction.
2. Individualized Instruction -- a highly flexible system of multiple materials and procedures in which students are given substantial responsibility for planning and carrying out their own organized program of studies, with the assistance of a teacher, and in which their progress is determined solely in terms of those plans.
3. **Open Entry-Open Exit** -- a concept that refers to procedures in educational programs and courses that allow the learner to enter and exit a formal educational setting at times other than the beginning and ending of the traditional school term.

4. **Occupationally Specific** -- programs designed to develop competencies associated with specific fields of employment or job clusters.

5. **Individualized Materials** -- informational packets designed for use by the learner in a self-instructional, self-paced, self-evaluative manner.

**Faculty Renewal Approach**

Fashion merchandising curriculum quality can be maintained by the faculty renewal approach. There is general agreement that interest in faculty assessment and development in higher education has increased during the past 10 years. However, as Sweeney and Drasha (13) point out, "Ideally, evaluation activity should be linked to enhancing the teaching competencies of faculty...and those faculty assessed need an opportunity to improve."

**Career-related experiences of faculty.** Traditionally, there is little evidence that career-related accomplishments outside education are rewarded in academia. The relevance and currency of a college curriculum focused on career opportunities depends, to great extent, on the career-related experiences of the faculty. Work experiences in retailing and other facets of the apparel industry are vital qualifications to consider in the selection of new faculty for fashion merchandising programs. Some of our younger faculty have had work experiences that enable them to reinforce learning-related to career-oriented competencies. However, many of our faculty have not worked in retailing for some years or indeed have never worked in any facet of the fashion industry.

**Faculty renewal programs.** Faculty renewal programs should be available for faculty without recent work experience in career-related business areas. A model program for Faculty Professional Development Internship (FPDI) was developed and implemented recently in the clothing, textiles, and merchandising department at Oklahoma State University. The FPDI program provides graduate credit in master's and doctoral degree programs for college faculty or potential faculty members who want to increase and/or update their understanding and knowledge of the retail field. The course description, major objectives, and format for the model FPDI program presented on the following page include a description of the role of the faculty internship director, the role of the job internship supervisor, and the evaluation strategy.

**Student Guidance Approach**

The career-oriented objectives of a fashion merchandising curriculum can be more effectively achieved with a student guidance approach. The faculty-facilitator role model concept involves awareness of career opportunities and understanding of students' interests, strengths, and weaknesses. Retailers need to "attract people who have the capability and commitment to a career in retailing (14)." At the 70th annual NRMA convention, January 1981, Winkelman (15) pointed out that "career path ideas that have been cultivated by some universities and personnel consultants at the expense of organizational loyalty have served as an obstacle to young people making a real commitment of themselves to a specific company."

**Characteristics of emerging superclass.** Faculty can assist students in defining realistic career goals and making decisions as to future directions for the 1980s. Faculty and future employers need to take a close look at today's students—the emerging superclass. Jones (16) reminds us that the
Faculty Professional Development Internship
Model Program

Course Description
• Individualized career-related internships for faculty renewal.
• Update of knowledge and verification of job profiles based on learning experiences in selected work situations in the fashion industry.

Major Objectives
1. Identify current career information needed by prospective retail buyers or faculty teaching fashion merchandising.
2. Update job profile for positions in the fashion industry that relate to clothing, textiles, and merchandising.
3. Clarify career-oriented competencies for use in development and evaluation of specialized curriculum options.
4. Become more aware of research needs and techniques related to marketing fashion products.

Program Format
On Campus - 6 to 8 weeks (80-90 hrs.)
Formal class - (approximately 60 hrs., 6-8 hrs. week)
1. Review content of specialized courses and observe classes in specialized areas.
2. Study existing career information related to internship assignment.
3. Review literature concerned with marketing research and competency based curricula evaluation.

Independent study - (approximately 30 hrs., 3-5 hrs. week)
1. Develop proposal for mini research project and obtain approval of faculty and job supervisors.
2. Prepare individual guidelines for internship.

Off Campus - 8 to 10 weeks (400 hrs.)
1. Participate in or observe activities related to responsibilities of selected job in specific career area.
2. Complete mini research project.
3. Prepare written report of internship and mini research project.

Role of Faculty Internship Director
1. Direct formal class and independent study on campus.
2. Arrange and monitor internship off campus.
3. Schedule on-site implementation and assessment conference.
4. Evaluate interns on-campus and off-campus achievements.
5. Make needed revisions in faculty internship program.

Role of Job Internship Supervisor
1. Assist in planning internship and assign job responsibilities.
2. Maintain quality learning experiences during internship and aid in achievement of research goals established for internship.
3. Assess performance of intern on the job.
4. Make suggestions for improvement of faculty internship program.

Evaluation Strategy
1. Establish on-campus achievements of intern based on: individual guidelines, including kinds of update knowledge related to functional areas of retailing (accounting and control, buying and merchandising, operation and management, advertising and promotion); proposal for mini research project; directed readings.

2. Establish off-campus performance of intern based on: assessment conferences; daily log; three periodic summaries of activities; final report; mini research report and other evidences of learning experiences during internship.
baby-boom will be moving into its Golden Era as young educated adults. They will be the professional-managerial working couples who command more discretionary income than any other group. They will dress differently from most people, entertain themselves differently, travel to different places, buy different things, and have different values.

New attitudes about work, new expectations, and new demands will characterize the students we have now as they move into the work force in the '80s and '90s. According to Steer (17), research analyst for Yankelovich, Skelly and White, a New York-based consulting firm, "The new values will focus on self, own needs, own satisfaction, own fulfillment, concern about the present and instant gratification. The work values of the superclass will be based on the psychology of entitlement--today's students will want more as tomorrow's workers. They will expect more free time, fewer work hours, shorter work weeks. They will seek feelings of self-worth outside their jobs such as nonwork-related activities and leisure time pursuits. Money no longer will be the single motivator, other rewards will be sought.

As faculty, we can help today's students measure up and feel better about themselves in tomorrow's work force. We can encourage students to take advantage of leadership training, seminars, and work experiences; gain insight into decision making; learn to talk about their problems; and learn how to act rather than react to circumstance.

Networking of faculty, students and alum. Alumni in the career field can serve in an advisory capacity for faculty and students. Networking in the '80s can be the answer to the massive social change taking place: coping with new ideas about family and work, what constitutes success, the dramatic change in the role of women, the new concept of maturity, how to realize full potential and recognize unique qualities. Both lifestyles and technological changes will have an impact on the emerging superclass--today's college students.

Fashion merchandising curriculums for the '80s should help bridge the chasm "between the theoretical and the conceptual knowledge found in the academic work and the pragmatic approach found in the business world (18)."

We can secure and maintain the bridge between the college and work worlds by updating career-oriented competencies, implementing and evaluating curriculum changes, using educational technology, offering quality student work experiences and faculty internships, and providing effective guidance for fashion merchandising majors committed to a career in retailing.

Fashion merchandising is a valid area of home economics specialization with a subject-matter base related to clothing and other textile products. Our compass is not broken. Occupationally-specific and competency-based education are concepts that can help us explode the fashion merchandising curriculum in the '80s.

References:

CAREER OPPORTUNITIES IN MERCHANDISING

Barbara Pedigo
Director of Placement and Recruiting
Meier and Frank Department Stores

Putting my thoughts together for this talk has helped solidify the connection I see between what you're doing and what I'm doing. You're producing a product on the campuses and I'm a consumer for that product. The comments I'm going to make today revolve around two things: opportunities in retailing, specifically department store retailing, and who's responsible for preparing students for the real world of retailing.

With that in mind, I'd like to back up just for a minute and talk about my association with colleges and universities over the past five years. I got into retailing totally through the back door. I went to college in Boulder, Colorado in the '60s, in the era of social justice. The business school was not something we didn't discuss. Getting into the business community was not a realistic option for us. We wanted to be teachers, to work for social change. We didn't consider being part of the business community. In my mind retailing was the bottom rung of the ladder.

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Over the last five years, the awareness level towards a business career has been elevated on college campuses. This year's students are the finest caliber, business-oriented, tough-minded, aggressive, want-to-go-out-and-knock-them-dead people that I have ever seen. The competition is, without question, very intense for getting into business training programs.

I would like to take a minute and outline the process that we, as an employer, go through to connect with your students. Right now the Career Planning and Placement office is probably the major vehicle that companies use. Depending on the philosophy of the school, whether the school sees its role as preparing students to make a living or not, schools will handle recruitment differently.

At Oregon State University we go three different times a year for three days with three recruiters each day. We've expanded our college recruiting from 11 to 24 schools in a three-state area. We are so sure that there are students out there who are going to be talented, sharp, aggressive merchants, that we want to go out and identify them.

During the course of a year we will interview close to 1,000 students. We will hire 30, maybe 35. That's not to say that a sharp student who doesn't get picked the first time around can't make it into the program. But we have toughened our standards considerably in the last year and a half.

There is a major change in direction as far as we are concerned. It challenges us to look at how students are being prepared for a career in retailing. They still need a fashion sense, good taste, creativity, management skills, and maturity, but they also have to understand the numbers or they're never going to make it in retailing.

From the students coming through the Career Planning and Placement office we select those we feel are the best qualified and invite them for a second interview. It used to just be a second interview; now it's an assessment situation. They come in for a whole day. There is a lecture by the company's president. The candidates go through a series of three grueling assessment interviews.

We had a lot of fun putting these together and sifted through incredible amounts of information. The case studies we selected are from the Harvard Business School. We will use them for probably the next 18 months and then we will move on to something newer.

One test is the stress interview. The students sit at a desk with a merchandiser on the other side. We give them a packet of information, roughly 20 to 25 pages, to read through in 10 to 12 minutes. They are business situations where they have to prioritize the day. The candidates have to be able to think quickly and react well in a pressure situation.

The next interview is a more passive approach to the same type of information, but again we're looking at people's skills. We are looking at their ability to tune in to what people are feeling--problems they are having--and then balance that with some tough business decisions.

The third interview is what we call a face-to-face. It is a very carefully designed interviewing process our merchandisers take these people through to assess achievement and competitiveness. We want candidates to interpret their past experiences in terms of anticipated future results.

We also have some very nice panel discussions to lighten up the day and relax the candidates a little.

At the end of the day the students go home and we spend another five to six hours working in teams evaluating the results. A lot of thought and discussion go into the evaluation of each person. Those selected are offered positions. Then they go through four weeks of intense classroom training,
8 to 10 hours a day, which specifically prepares them for analysis, reporting, and actual floor merchandising. These new people also go through an extensive supervisory skills training program, and they meet each top executive in the company.

Before this new training program we took six months, one day a week, to train these people while they were on the job as department managers. It is hard to assimilate all this new information in four weeks and use it. However, we are being much more selective in the caliber of persons we select—they're brighter, sharper, and many have been involved in practicum programs. Perhaps 95 percent have worked in department stores or for specialty retailers and they are coping. We have run the program twice and I feel that these people are better prepared to be department managers than those who had the gradual training.

They will be branch store department managers for probably a year to a year and a half. They report directly to a divisional sales manager. They may be working with 6 to 8 buyers, 6 to 8 assistant buyers, a staff of 12 to 15 people, the stock manager, the display manager, and the shortage control manager.

When we're talking about merchandising careers and a person coming on board, going through the training program, and being a department manager, we are working toward a goal. We are trying to develop the next line of buyers for the company. They are stock people until they become assistant buyers. At that point they work with a buyer in the analytical plan—the long-range analysis of their area—and study the development of particular franchise businesses.

To be considered for a buying position, each assistant buyer must understand very thoroughly the philosophy and direction for each area, how to work with vendors, and how to be aggressive and go after whatever it is they want. They have to be very creative, particularly in this economic situation, about going after advertising money.

After becoming a buyer, most people in retailing are at a point where they make a decision about career direction within department store retailing. We have buyers that go into store planning, store management, or the merchandise information office. We have one buyer right now who has just become an assistant store manager, working strictly on the operating side of the business. Some go into personnel. There is an incredible amount of flexibility. Once you are a buyer, you have the foundation and you can do anything you want in this business. I don't know any other industry that allows this much personal creativity. People are much too casual in planning their careers.

Make sure that your students are aware of their options. What do buyers with 10 years' experience do who can't become divisional merchandise managers because they've priced themselves out of a branch move? Usually they move to a larger retailer. Even if they have decided they don't want to buy anymore, the only moves they can make are to bigger buying jobs. It's a very real situation that people get themselves into.

The average age of our buyers hired from universities is probably 26. The average salary for these people after one year of buying is $20,000 to $23,000. With three or four years of buying they are probably going to make from $27,000 to $30,000. If they want to be mobile, they have to be very careful at this point not to put themselves on a treadmill, so they maintain flexibility.

I brought with me the first page of our performance review for executives. This is called executive effectiveness. It is broken down into three major areas: management skills, supervisory skills, and personal profiles.
are the issues we deal with in deciding whether or not to hire a person. They are all issues that you as educators need to be aware of in counseling students about going into business.

Planning--Did the person provide a logical and effective course of action, based on known facts and resources?

Controlling--How does the person control the business? control time? control personal strengths and weaknesses to get the job done?

Resourcefulness--Was the person resourceful? To be a successful merchant, you've got to be resourceful. We cannot have people in merchandising that don't have a very strong point of view.

Analysis--Merchants need an analytical ability. Meier and Frank is one of the more sophisticated stores, systemwise. We have an incredible reporting network and people learn to use that network to make good management decisions.

Decisiveness--What good is it to have a point of view if you can't make a decision.

Influence--Does this person make things happen; have a sense of urgency, drive, and curiosity; and most importantly, have credibility that makes others respond? You can have the greatest point of view in the world and be able to make decisions, but if you can't get people to go in a certain direction, nothing is going to happen.

Delegating--How does the person handle delegation of responsibilities? There are three types: people either delegate effectively, they delegate too much and lose control, or they don't have enough faith in their ability to delegate so they do everything themselves. Does the person have the ability to stimulate subordinates? In our business, we have to be flexible and smart enough to take time with each subordinate.

Working with others--Unless you're open and unless you're sensitive to what's going on with your people you'll never be successful in the business. Ours is a steamrolling business. It is going 100 miles an hour all the time, and unless you make yourself settle down and listen to your people, and really work through them, nothing will happen. I would say that 80 percent of the success of all merchants depends on the abilities of their people, so we think that training and development of people is an incredible issue in our business.

Creativity--Does the person make a contribution that improves methods, adds knowledge and understanding, and gets results?

Flexibility--Can the person alter plans or activities to meet the demands of new or unexpected situations?

I think a sense of urgency and assertiveness are probably two of the most important points we deal with. A person must have the ability to act quickly and independently without specific direction. You have to be a self-starter, not yield to pressure, think clearly, keep a clear head, and get the job done.

How many of you are feeling a sense of pride about students who were hired by major department stores for their training programs? What percentage of your students make it after five years? How involved are you with the Career Planning and Placement office? Do you really know what's going on within the business community, and not just in your own area? Do you know which areas are really hiring? Where are your students going after they leave your colleges and universities?

The role of the educator is to expose students to accurate information and forward-thinking information about the industry. To do that well, you have to keep close ties with industry. And it is industry's responsibility to make connections with you. We as business people have done a poor job of connecting with people who are influencing the students. We are depending too much on the Career Planning and Placement office. We need to make ourselves available.
to work with teachers—to be willing to spend time in the classroom.

I hope you will be realistic when counseling students about our business. And you can't do that unless you stay current with what's going on in the business. When you think students would not make good merchants, do them a favor and direct them someplace else. We have horror stories of people getting into our business that are not emotionally suited, for the pressure is incredible.

For every 1,000 people we interview, probably 500 should never have been directed towards retailing. Out of 1,000 people we interview, perhaps 100 are prepared to interview. I get at least 2,000 to 3,000 letters a year from students that have graduated, don't have jobs, and they are starting cold by mailing resumes.

The real world of retailing is completely results oriented and highly political. Although results are evaluated every day, I have to wait a little longer for mine—mine are turnover results. If a buyer does not handle vendors well, cannot be relied upon, does not follow through with commitments, that person doesn't belong in retailing. We need tough people willing to make decisions, take stands, and follow through with commitments. They have to understand and really get excited about completing a project, enjoy analyzing the results, and use what they learn to do it better the next time.

The connection that retailers need to make with educators is a commitment towards the development of people with high potential. Early in the training program, we identify these people and I challenge you to that same goal. Get together with other people in the department, the Career Planning and Placement office, people from the business school, whatever kind of network you have set up, and make sure that these top people are known. Really work with these students for you have to cultivate an interest in retailing, an involvement in retailing, and a commitment to retailing.

Note: Judith Kuipers' speech, "Education in the '80s: A Matter of Perspective," may be ordered from Oregon State University. Contact Anne Fehringer, 334 Milam Hall.
Consumers' Response to Children's Sleepwear:
The Effects of Fiber Content, Flame Retardant Finish, and Price

Rhonda Hughes and Margaret Rucker, University of California, Davis

The objective of this study was to determine the effects of fiber content, presence or absence of a flame retardant (FR) finish, and price on consumers' selections and evaluations of children's sleepwear.

In a previous study of opinions about children's sleepwear, parents of preschoolers had been asked whether they would be willing to have their children participate in a projected wear study, and if so, what types of sleepwear they would accept. One hundred twenty of the survey respondents were able to participate in the wear study. Pajamas with three different fiber contents were obtained for the study, including 100% cotton, 100% polyester, and 65/35 cordelan/polyester. The cotton fabric had been treated with a FR finish, but the polyester and cordelan/polyester had not. The price of these three garments was the same to allow assessment of the effect of experimental manipulation of price on consumer evaluations.

Participants were first asked to select two out of three sample pajamas for their children to wear during the winter season. The samples consisted of the three fiber types crossed with high, medium, and low prices. Arrangement of fiber types and prices was systematically varied to control for possible order effects. After making their selections, the participants were asked to complete a questionnaire including questions about the samples as well as more general items on opinions about children's sleepwear. They were then reminded of each item's fiber content, presence or absence of a FR finish, and price and given a chance to change or confirm their initial choices.

The participants' projected sleepwear selections (i.e., types of items checked as acceptable in the previous study) were cross tabulated with their actual selections for the wear study and a chi square analysis was performed. When people who stated they would be willing to accept sleepwear with a FR finish were compared with those who did not, the percentage of people actually selecting a garment with a FR finish was higher in the former group. However, this difference was not significant; for both groups, the FR finish choices outnumbered the no FR finish choices.

The data on first choices indicated that there was a significant fiber effect. Price did not have a significant effect on selection, although there was a slight tendency to favor the garment with the highest price.

The attitudinal data were similar to the actual selection data, i.e., fiber content seemed to have more of an effect on ratings than did price. The 100% polyester pajamas generally received the highest ratings and the 65/35 cordelan/polyester pajamas the lowest ratings.

In addition, data on the relationships between fiber content and preferences, probable purchases, and quality of the sleepwear gathered at the end of the study were similar to data gathered at the beginning, both for all three garments and for the two selected for wear. Ratings became more positive with use, with polyester showing the most improvement and cotton showing the least improvement.

From these data, one can conclude that caution must be exercised in generalizing consumers' questionnaire responses about FR sleepwear to their
behavior in a selection situation. Attitudinal data should be confirmed with selection data, or at the very least, multivariate attitudinal data should be collected, to assess the probable impact of product changes on consumer selection of, and satisfaction with, those products.

"50-Plus" Aged Consumers' Processing of Fashion Information from Mass Media

Susan B. Kaiser and Joan L. Chandler, University of California, Davis

Symbolic interaction theory would suggest that individuals derive information about normative patterns of dress through the process of nonverbal communication. The mass media may provide fashion information for consumers approaching late adulthood, i.e., when informal, interpersonal communication sources may become less available. The apparel industry has found it difficult to cater to "senior citizens" due to an inability to identify that market without labeling it as "old" in the process. Therefore, marketing efforts are frequently aimed toward the expanded target of "50-plus" aged consumers. The purpose of this study was to explore the role of the mass media (television, magazines, and newspapers) in providing fashion information to "50-plus" consumers.

Six-hundred questionnaires were distributed to a random sample of persons residing in a suburban retirement community and to consumers residing at five urban, senior citizen apartment complexes in Northern California. The male (31%) and female (69%) respondents (N=209) were predominately white, middle-class individuals ranging in age from 51 to 94, with a mean age of 73.

The results indicated that the consumers spent an average of 3.06 hours watching television per day. The most frequently viewed programs were, in rank order: news shows, talk shows, game shows, soap operas, and situational comedies. The consumers reported that they seldom used television as a source of fashion information. A relatively small number of senior-aged persons on television were recalled by the subjects.

An even smaller number of examples were given for clothes they liked on television; those given were from soap operas, news and talk shows, and game shows. The television shows which were not liked in relation to clothing worn by the actors/actresses were those with styles suitable only for the young. The responses generally indicated a disregard for stereotypical portrayals of the elderly (e.g., arthritis commercials, telephone commercials with elderly ladies in old-fashioned dresses).

The subjects reported reading an average of 2.5 magazines regularly. The magazines that contained clothing that was most liked were women's magazines (e.g., Good Housekeeping). The majority (84.3%) of subjects could not recall any examples of senior citizens in magazines.

Eighty-three percent of the consumers reported that they read the newspaper daily. In addition, newspapers were reportedly used to a greater extent than magazines or television for fashion information. An analysis of variance revealed that the consumers with higher clothing expenditures more frequently used the mass media for obtaining fashion ideas. Females were more likely than males to report that they used the mass media for ideas on fashion and potential clothing purchases.

The data suggest that "50-plus" consumers do notice and appreciate the few positive, nonstereotypical examples of senior citizens in the media. It also appears that apparel manufacturers and retailers could benefit by
providing appropriate role models for "50-plus" consumers in the mass media. The maintenance of positive interactions with others, moreover, is essential to successful socialization to aging. When such experiences are not readily available, the mass media, at least, could better relate to aging consumers by providing active and attractive seniors as role models.

**Natural Resource Conservation: Clothing**

Lavonne Matern and Jackie Thomas Williams, New Mexico State University

Data submitted by families living in a south central state were analyzed to assess the extent of natural resource conservation. Only those results pertaining to the clothing sections of the study will be included in this report. Awareness of the need to conserve natural resources with regard to clothing, the perceived satisfaction with fibers, and selected clothing practices were examined.

A stratified random sampling technique was used to draw a representative sample for urban and rural status and geographic area. Telephone directories were used to develop a computerized system for selection of 2,400 names; 600 names were drawn from each of the two urban areas and 300 names were drawn from each of the four geographic areas of the state.

Members of the research team developed a three-part instrument to obtain socioeconomic information, to assess the awareness of natural resource conservation, and to determine the degree of satisfaction with fibers and selected conservation practices. The instrument was submitted to qualified, professional persons for revision and clarification. Pilot tests were then conducted to determine the reliability.

Closed- and open-end questions were used to obtain socioeconomic information. The responses, as given by the participants, were categorized according to the U.S. Census Socioeconomic Status Score. The typical family represented in the study consisted of a white, head-of-household middle-aged male and a white female second adult with no children present in the home. The head-of-household had graduated from high school, had some college or technical school experience, and was employed full time in a professional, technical, or similar type position. The second adult was generally a homemaker. The family income ranged from $24,000 to $29,000.

Awareness of the need to conserve natural resources with respect to clothing was determined from participant reaction to eight statements concerning clothing and natural resource conservation. Participants were able to choose from three responses: agree, neutral, and disagree. Results indicated a high level of awareness of how clothing could be used to conserve natural resources.

Participants were asked to indicate their satisfaction with selected clothing practices and with fibers that would maintain body comfort and reduce the consumption of natural resources. The degree of satisfaction was indicated as very satisfied, satisfied, neutral, dissatisfied, or very dissatisfied. Satisfaction with cotton garments during the winter and summer was indicated; but participants generally indicated neutrality toward fiber or fabric characteristics.

Although results of the study indicated a high awareness level of how clothing could be used to conserve natural resources, clothing practices that insured body comfort were generally given a higher degree of satisfaction than those practices that conserved resources. Those clothing practices and fiber
preferences that significantly related to the awareness of the need to conserve natural resources were (1) remade and/or recycled clothing; (2) limited clothing in the wardrobe; (3) suits or dresses that could be worn for several activities during the day; (4) acrylic and wool worn during the winter; and (5) cotton and polyester worn during the summer.

A multiple analysis of variance was applied to assess the awareness of the need to conserve natural resources concerning clothing and selected socioeconomic variables. Family size was the only socioeconomic variable selected that proved to be significantly related to awareness of the need to conserve with regard to clothing.

Competency Identification and Articulation for Fashion Merchandising Programs

Linda B. Tucker, Southwestern College, Chula Vista, California

In fashion merchandising programs, problems result in loss of credit, repetition of course work, and sometimes neglect regarding competencies needed for entry-level jobs. The goal of this study was to produce an articulation model for fashion merchandising programs to assist in program planning, evaluation, and field placement. The study was developed in four phases: (1) isolation of job positions, (2) identification of job competencies, (3) verification and rating of competencies according to appropriate educational level of preparation, and (4) development of the articulation model.

The DACUM process was used to generate a survey instrument consisting of 20 General Areas of Competence and 179 individual competencies, which was administered to 159 fashion retailers and fashion merchandising educators in California. Twenty-five percent of the retailers and 36% of the educators responded. T-tests were computed to determine the degree of difference between the responses. Competencies for each educational level were determined by a frequency distribution and reported in simple percentages. Analysis of the questionnaire data specified the necessary job competencies and educational levels for the positions of salesperson, manager, and buyer.

Significant differences occurred between the responses of the fashion retailers and fashion merchandising educators with the greatest disagreement expressed in the following General Areas of Competence: 3.00 Maintain Store Appearance, 5.00 Understand Loss Prevention, 7.00 Communicate Product Knowledge, and 9.00 Accept Responsibility.

Of the 179 competencies listed on the questionnaire, the fashion retailers and fashion merchandising educators agreed on 66 or 37%. Further analysis rendered 91 competencies as appropriate for the high school graduate, 50 additional competencies for the community college graduate, and 38 additional competencies for the four-year institution graduate. These data formed the basis for development of the articulation model.

The articulation model is experimental in nature and should be a prototype rather than a finished product. The intent is that it be used to design successively sequenced and increasingly hierarchical competencies throughout a student's educational career. Among the recommendations is that fashion merchandising educators practice vertical articulation with fashion merchandising programs at other educational levels using the articulation model in this study or one developed to reflect the attitudes of local business and education.
Dye Penetration Behavior of Selected High Wet Modulus Rayon Fibers

Vivian Davis and Rosalie R. King, University of Washington

Regenerated cellulose fibers are showing a resurgence of use. Regenerated fibers have similar physical and chemical properties to those of cotton, yet have the advantage of forming less fibrous matter when in the yarn and cloth production stage.

The experimental design focused on (1) dye penetration behavior of four improved rayon fibers with various cross sections and spin to core ratios, and (2) differences in dye penetration behavior related to the fiber skin configurations.

The improved rayon fibers studied were Prima from ITT Rayonier, Whippany, NJ; Fiber 40 (Avril I) and Avril III from Avtex, Front Royal, VA; and Viloft from Courtaulds North America, Mobile, AL. The control fibers were a bleached and combed cotton from Cotton, Inc., and Fibro regular viscose rayon from Courtaulds North America, Mobile, AL. The three direct dyes used were Direct Yellow 106, Colour Index Constitution number 40300; Direct Red 80, C. I. Constitution number 35780; and Direct Blue 218, C. I. Constitution number 24491.

Rate of dyeing curves were constructed for each of the dyes used on the improved rayons, regular viscose, and cotton fibers. Samples for visual evaluation of cross sections were dyed for varying lengths of time ranging from 30 seconds to 60 minutes on specially designed yarn holders.

By establishing standards at the beginning of the dye cycle, changes in the dyebath were detected. Quantitative measurements were made with an abridged spectrophotometer. Visual evaluation of dye penetration behavior was achieved through the use of photomicrographs.

One of the major accomplishments of the study was the development of the cross sectioning technique for use with improved strength rayon fibers. The cross sections were prepared by embedding the fibers in a 90% butyl methacrylate and 10% methyl methacrylate monomer mixture. A 15 pound per square inch vacuum was applied to remove air before the embedded parallel fibers were polymerized in a 35 degree C oven. Polymer blocks containing fibers were then prepared for a sledge microtome. The optimum section depth proved to be eight microns; the sections were flooded onto slides with a water and Photo-flow solution. The mountant found most compatible to the fibers was Karo corn syrup that has a reflective index of 4.319. Microphotographs were taken by a Zeiss photomicroscope with magnification of 256.

Dye coloration for the direct red dye was first recognized on the fiber skin after 30-second exposure to a 4% on weight of fiber dye bath. Inner fiber penetration also occurred at 30 seconds. The same timing was evident for the direct blue dye but time of dyeing was inconclusive for the direct yellow dye. The technique developed did allow fiber dye penetration to be objectively analyzed.

Additional research on other dye classes and colors within the dye classes is recommended.
The Thrift Shop as a Source of Used Textile Products:  
An Alternative Marketing System

Margaret Rucker, University of California, Davis

This study was designed to characterize the thrift shop market, with emphasis on the recycling of clothing and other textile products. Specific objectives included determining the needs and preferences of consumers in this market and those factors that are important in making the decision to shop for clothing in a secondhand shop.

Permission to conduct the study was obtained from 12 thrift shops in Northern California. Store customers were asked to respond to an in-store interview and also to take a mail-back questionnaire. Of 176 customers asked to participate, 146 agreed to be interviewed and 90 completed questionnaires.

In response to the interview, approximately two-thirds of the shoppers said they did have at least one item in mind to buy when they came to the store. However, a little over half of these people did not buy what they had been looking for, most often because the store did not have the item(s). Approximately 44% of the respondents bought something they had not planned to purchase; price was the factor most often mentioned for these impulse buys. About 12% of the interviewees indicated that they had not made any clothing purchases from a secondhand store. Reasons for the lack of such purchases included preferring to make their clothes, needing a special size, lack of exposure to used clothing, and a dislike for wearing other people's clothes.

In response to a questionnaire item asking for the most important factor in deciding to shop for clothing in a secondhand store, approximately 30% of the purchasers checked low prices and almost 25% checked garment condition. "Fashionable clothes" was checked by close to 8% of the respondents.

Willingness to wear secondhand clothing appeared to be situational. It was generally acceptable for casual situations but not for formal ones. Acceptance also varied by type of item. The proportion of people finding an item unacceptable increased with increase in closeness to the body.

When asked about suggestions for improving the selling of secondhand clothing, one complaint was that items were priced too high. Other comments involved the desire to have clothing labeled and grouped by size and fitting rooms available to try on the items.

Regression analysis indicated that the best predictor of number of types of clothing rejected for purchase was a general negative attitude toward used clothing. Another variable that was significantly related to number of rejections was number of years the respondent had been shopping at thrift stores. The long-time shoppers, compared to the short-time shoppers, checked more types of clothing items as acceptable for purchase from thrift shops.

From these results, one can conclude that clothing is an important thrift store commodity, especially for long-time users of this market. Low prices and garments that are in good condition foster the transfer of clothing from original to subsequent owners. In addition, fashionability of items appears to be an important factor in the recycling of clothing. The major deterrent to the recycling of clothing seems to be attitudinal; some people feel uncomfortable about wearing another's clothing, especially if the items have intimate contact with the body.

A major implication of this research is that encouraging the recycling of clothing through thrift shops may require careful balancing of consumers' preferences. Having neat, clean clothing stored by size and adequate dressing room facilities may foster the acquisition of used clothing but only if these goals can be achieved without substantial increase in the cost of the items.
Clothing Symbolism in a Village in Southern Mexico

Diana Ryesky, University of Washington

In Latin America, many factors, including dress, contribute to an understanding of ethnicity. Ethnic differences there appear to be based on cultural, social, and economic distinctions rather than on racial ones. Language, dress, and religious practices hold more weight in characterizing membership in an ethnic group than do somatic variables such as skin color and hair texture. Also, in Latin America, these ethnic distinctions exist within plural societies that are class-stratified states in which one ethnic group often holds political and economic domination over the others with concomitant cultural barriers existing between groups. Therefore, ethnicity should be analyzed within a context of inequality, including manifestations of social class.

This paper explores the role of dress as a marker of ethnic, social, and economic status in a bi-ethnic community in southern Mexico. Information from this study comes from in-depth ethnographic research centering on backstrap loom textile production and its economic and social implications in Pinotepa de Don Luis, Oaxaca, Mexico. During seven months in 1974 and 1975, data were gathered from a non-random sample of weavers and nonweavers through the techniques of interviewing, case studies, and participant observation.

Pinotepa de Don Luis is located about 20 miles from the Pacific Ocean in the southwestern part of the state of Oaxaca. Agriculture, commerce, and backstrap loom textile production are important economic activities. It is one of many villages in the region that includes two ethnic groups: (1) Mixtec-speaking Indians and (2) mestizos, or people who speak Spanish and identify with the national Mexican culture. In the community, strong economic, social, and political distinctions exist between Indians and mestizos. For example, the two groups participate in different economic activities. Indians conduct near-subsistence-level agricultural activities, work as paid agricultural laborers, and Mixtec women engage in textile production; mestizos dominate lucrative ranching and commercial activities. Also, mestizos, who occupy the upper rung in a stratified social structure, control town politics.

Dress visually communicates geographical and social distance in this community and also in the region. Indians, both male and female, wear distinctive dress, parts of which are handwoven, while mestizos use standard factory-made clothing. Furthermore, among the Indian population, variation in dress may indicate the community in which an individual resides as well as relative economic status. Moreover, it distinguishes the Mixtecs of this region from other Mixtec speakers as well as from nearby speakers of other Indian tongues. Since ascription to an ethnic group derives from cultural rather than from biological factors, change in dress from indigenous to mestizo styles may express upward mobility.

In conclusion, dress can be considered a cultural marker of membership in an ethnic group, which in this case, correlates strongly with class. An individual's change in dress may indicate a modification in ethnic identity.

1This research was funded by the Dirección General de Cultural Populares, Secretaría de Educación Pública, Mexico, D.F., Mexico, where the author worked as a researcher.
American Pattern Drafting Systems for Men in the Nineteenth Century

Linda Morton, Colorado State University

The purpose of this study was to develop a history of American nineteenth-century men's pattern drafting systems and the requisite technology. The study was limited to all extant nineteenth-century men's pattern drafting systems published in America that were available to the researcher and included drafting instructions for coats, vests, and/or trousers.

Because the pattern drafting systems were written by and for tailors, content analysis was determined as the best method for the modern researcher to deal with the information. Content analysis is a process that compares selected common characteristics among the various systems. The author's name and sex; date, city and state of publication; edition; and publisher were taken directly from the title page of each volume. System type was determined by the researcher based on definitions for direct measure, proportional, and combination systems. Requisite technology, garment styles, directions given by the author for taking and laying out the measurements, and miscellaneous information were divided into categories. If a system was missing any information—text, pictures, or equipment—it was recorded. A packaged (SPSS) computer program was used to cross-tabulate the information. A total of 61 systems from 42 volumes were available for study.

By studying the extant pattern drafting systems, it is possible to (1) determine the tools available to the nineteenth-century American tailor and compare the use of those tools to the various system types, (2) determine the centers of sartorial activity, (3) determine the popularity of a given garment for both the broad time period and, many times, for a specific year, and (4) determine the up-to-the-minute fashion details.

Three different types of pattern drafting systems were discovered: direct measure, proportional, and combination. Throughout the nineteenth century, except in the last decade when proportional and direct measure systems were equally used, direct measure systems were most popular with tailors.

Of the tools available to the tailors, the tape measure, whether notched or marked in inches, was the most widely used. Additional tools, listed in order of their use, included squares, both tailor's and regular; special devices; scales; tables; other, such as compass or protractor; and rulers.

Of the 17 American cities publishing the available pattern drafting systems, New York City was the publication site for the largest number of systems, followed by Philadelphia. Additional systems were published in a variety of cities from relatively isolated communities to cities such as St. Louis and Chicago.

Four coat styles were found to be popular with the nineteenth-century American male: frock coat, morning coat, dress coat, and sack coat. By comparing the garment styles available in the pattern drafting systems to Blanch Payne's History of Costume, it was discovered that, in most instances, the nineteenth-century tailor was able to produce a fashionable garment for his customer. Additionally, some tailors included discussions of fashion details, colors, and fabrics. Such information is of interest to the modern costume historian, particularly when dating garments or producing historically accurate garments.
Effect of Ozone Pollutants and Ultraviolet Light on Cotton and Polyester Flame Resistant Fabrics

Anne M. Fehringer, Oregon State University

The need for textiles that are flame resistant during their entire service life has led to the development of numerous durable flame retardant finishes and new performance testing procedures. Previous studies have shown that flame retardant cotton fabrics may retain their original physical properties during repeated washings and tumble dryings, but exposure to sunlight, ultraviolet light, and/or heat may degrade the fabrics. This becomes particularly significant when statistics show that approximately half of the U.S. population dries family clothing outdoors in sunlight.

The purpose of this study was to evaluate the effect of ozone, a common air pollutant in combination with ultraviolet light, on flame resistant work fabric. Ozone is a secondary pollutant found in the lower troposphere. It is formed from other substances such as photochemical smog. Studies have shown that concentrations of 0.3 to 1.0 ppm ozone will cause respiratory irritation after just 15 minutes of exposure. When found in the stratosphere in quantities of approximately 10 ppm, ozone has the important function of filtering out some of the ultraviolet light. The objectives included determining the effect of ozone pollutants in combination with ultraviolet light on the tensile strength and char lengths FR all cotton, all polyester, and cotton/polyester blend fabrics.

Fabrics that could be used for flame resistant work clothing were selected for this study. These seven fabrics included: 70/30 cotton/polyester flannel with no FR treatment; 70/30 cotton/polyester flannel treated with tetrakis (hydroxymethyl) phosphonium hydroxide, and ammonia cured (THPOH-NH₃); 100% cotton warp sateen with no treatment; 100% cotton warp sateen with THPOH-NH₃ treatment; 80/20 cotton/polyester twill with no treatment; 80/20 cotton/polyester twill treated with THPOH-NH₃; and polyester warp twill treated with tris (2,3 dibromopropyl) phosphate (tris).

The fabrics were irradiated 300 hours in an atmosphere of 20 ppm of ozone in a xenon-arc weatherometer. Tensile strength determination was performed in the warp direction for wet and 65% R.H. conditions and in the filling direction in the 65% R.H. condition. Observations of fabric weight, thread count, and fabric construction were made. Using U.S. Standard FF-5-74 (16 CFR 1616), char lengths were recorded before and after exposing the fabric to ultraviolet alone and to ultraviolet light plus ozone.

The results of this study would indicate that there was fabric degradation from ultraviolet light. This deterioration was slower when ozone was present. Strength losses were less for the polyester and the 100% cotton fabrics when ozone was present. Some strength loss was generally attributable to the presence of the flame retardant finish. The flammability of the THPOH-NH₃ treated fabric was significantly altered by weathering. When ozone was present, however, the char lengths were similar to those with no weathering treatment. This protecting effect of the ozone was not seen with the polyester. Since the flammability characteristics of the all polyester were not changed significantly by ultraviolet weathering, this would be expected.

It would appear that those workers in areas of high concentration of ozone do not need to be concerned about the degradation of flame retardant finishes. The finishes most likely will be protected by the ozone pollutants. However, exposure to ultraviolet light without ozone may have harmful effects on the fibers.
Declining enrollments, withdrawal of departmental and administrative support, and student and faculty dissatisfaction with clothing and textiles offerings heralded a need for change. This required new approaches to teaching, as well as reaching new audiences, and resulted in Clothing for People with Special Needs.

An individual with special needs was defined as one whose lifestyle, occupation, or other activities required adaptation to readily available goods and services. It included incorporation and enhancement of ethnic and cultural customs and adaptations for physical differences, including those resulting from aging.

The first step was to identify and develop allies who would become strong program supporters. More than 100 college district personnel were contacted. Seventy-five in-person or phone contacts were made with individuals who represented government, social, and service agencies serving people with special needs. The purposes of these contacts were to (1) ascertain what each person or program was doing, (2) determine unmet needs, (3) explore areas of mutual support and ways of working together, (4) avoid duplication of services, and (5) establish effective channels of communication.

Speeches, demonstration classes, educational exhibits, and informal discussions with prospective students were given at 10 locations. Also, information was submitted to local newspapers to inform the community about the program.

Because maximum flexibility was required in meeting audiences' individual needs, Clothing for People with Special Needs was divided into 15 modules, each carrying 1/2 semester unit of credit. The modules could be offered separately or together and taken for credit or no credit. Modules included (1) Psychological/Social Impact of Clothing Selection, (2) Art as a Basic Tool in Clothing, (3) Wardrobe Planning, (4) Accessories, Cosmetics, and Hair Styling, (5) Supplies and Equipment for Clothing Construction and Alterations, (6) Pattern and Garment Selection, (7) Fabric Selection, (8) Alterations/Fitting, (9) Fabric Preparation, (10) Sewing Machine Use and Care, (11) Shaping Techniques, (12) Closures, (13) Edges, (14) Constructing Accessories and Clothing Aids, and (15) Decorative Applications.

To test the concepts and determine if Clothing for People with Special Needs would attract students, two classes were scheduled for the spring 1981 semester. One, held on campus, enrolled 17 students with physical differences and their aides. The other, held at a senior center, attracted 15 students. Response to both classes was positive.

Teaching methods had to be flexible. Active student involvement in class activities and the expectation of completing assignments were most effective. Illustrative aids were essential for each class session. Because socialization was important for these people, the class format was designed to enhance learning through socialization. Visual aids and class handouts were prepared in large print as an aid for people with visual impairments. Field trips to local shopping centers were arranged.
A demonstration unit providing a complete, portable sewing center for wheelchair-bound persons or those with limited mobility was designed. New courses in Clothing and the Work Environment are currently being developed with training and personnel directors at 150 companies in the Santa Clara Valley.

Teaching Clothing and Textiles Courses by Television Videotape

Nancy O. Bryant, Oregon State University

Many courses in clothing and textiles, especially those in which demonstrations are performed, are well suited to the use of television teaching as an instructional aid. Courses such as clothing construction, tailoring, flat pattern, draping, fashion illustration, and interior design rendering are possible candidates. Demonstrations that are complicated, time-consuming to set up, or require magnification are excellent uses of the medium. Television production facilities are available on many college campuses. A cable hook-up from the TV facility and a television monitor (viewer) are all that are necessary for classroom viewing.

If the classroom is equipped with a playback machine in addition to the television monitor, students can review a taped demonstration for clarification or after a class absence. This also allows flexibility for students to learn at their own pace.

For the instructor, the time needed to prepare demonstrations term after term is eliminated since a videotape can be replayed. Although it takes considerable time to plan and deliver a television demonstration, the "pay-off" increases each time the videotape is reused.

It is possible to tape a demonstration in a television studio with the class in attendance. The students watch the demonstration on television monitors in the studio (or elsewhere) while the demonstration is performed and filmed on tape. The videotape can then be used in the classroom for successive terms. This is the faster method of production, a good way to begin working in front of a camera, and helpful if an audience provides extra stimulation. However, live taping does not easily allow correction of errors, and eye contact with the camera lens is more difficult with an audience present.

If taping sessions are done without an audience, mistakes are easily corrected during the taping session. "Instant playback" is used to check for errors.

Here are several suggestions for producing videotapes:

1. Demonstrate in person until you are sure the demonstration is clear to students. Then carefully plan the television version.
2. Understand what the television production system can do. Special effects such a sub-scripts can be inserted to emphasize important points.
3. Short tapes of 20 to 30 minutes are preferred. A long lecture-demonstration can be divided into smaller segments. This is especially helpful for students who may wish to review only one segment.
4. For tapes that run more than 20 minutes, allow a pause of two-to-three minutes during the taping session. This pause can be used to answer student questions.
5. Provide personal contact with students to off-set the "impersonality" of television, such as question-and-answer breaks. Discussion of assignment solutions is another means.
Student response has been positive. Students appreciate the opportunity to review tapes. Less individual help is required outside class time, freeing the instructor to evaluate assignments.

How are funds obtained for a project? Our university provides the facilities and equipment for the taping sessions. School funds were used to purchase the television monitor and playback machine, which also are used by other departments in the school. Funds for cassette copies of the tapes were provided by a local apparel manufacturer for the flat pattern series.

Apparel Evaluation: Construction Learned Without Sewing

Susan G. Carter and Renee' Thackeray, Brigham Young University, Provo, Utah

A feature of most clothing construction programs is that everyone learns to fabricate or sew one or more garments. But does one need to know how to thread a sewing machine, stitch a straight seam, or tailor a suit to be an effective merchandiser of ready-to-wear apparel?

When this issue was raised at Brigham Young University, we believed a broader perspective of clothing construction was needed for students majoring in fashion merchandising. A new class was developed to assist students in recognizing and assessing commercial construction techniques. Students were taught to evaluate the cost, durability, appearance, and quality of commercially produced garments. They also developed a working vocabulary of terms used in the industry.

To make the course relevant, the following objectives were established:

1. To identify and have a working knowledge of commercial construction techniques and fashion terminology.
2. To develop the ability to apply art principles to fabric selection and coordination with garment style, figure type, and target market.
3. To develop the ability to evaluate the quality of commercial construction techniques in terms of: (a) appropriate construction, (b) cost, (c) appearance, and (d) durability.
4. To develop the ability to identify and evaluate techniques used in garment construction in various quality levels: couture, better ready-to-wear, moderate ready-to-wear, and budget ready-to-wear.

The teaching tools developed to accomplish the objectives included a 20-page form listing (1) fabric terms, (2) construction techniques, and (3) fashion terminology. This served as a guideline during class discussions about commercially produced garments.

To encourage student involvement, three major assignments were developed in which the students gave both oral and written presentations. To complete the assignments, the students were required to visit retail establishments to (1) help them differentiate between couture, better, moderate, and budget ready-to-wear apparel; (2) investigate the types and quality of merchandise offered to the various market segments; and (3) study art elements and principles used in the apparel being marketed today.

Two written evaluations, using garment pictures as well as actual garments, were developed to test the students. Students evaluated actual garments at a campus testing center to conserve class time. This practical evaluation put the student in a decision-making or evaluative situation that was more detail oriented yet similar to decision making done by a buyer viewing
an apparel line.

Students have responded favorably to the new class because many have little desire or no talent to construct a garment. Male students feel more comfortable when not required to go through the traditional construction classes with their series of fittings.

One major benefit is that student exposure to various construction techniques is much broader in this class than the limited experience gained in the construction of two or three garments. The class also has proven to be an excellent working field for using concepts previously learned in department core courses dealing with art principles and textiles.
ACPTC-WR BUSINESS MEETING
Saturday, October 24, 1981, 12:45-2:15 pm
The Benson Hotel
Portland, Oregon

1. Call to Order: The business meeting of the ACPTC-WR was called to order by Marilyn Horn, President.

2. Introduction of Executive Board: The current board members for ACPTC-WR were introduced to the members during the luncheon meeting.

3. Minutes of the October 30, 1980 Business Meeting: It was announced that these were printed in the ACPTC Proceedings, which members should have when they return to their homes.


5. Committee Reports:

   Membership: Jean Margerum, Chairman, reported that on the national level there are 694 active members and 260 who had not renewed their membership. Western Region had 151 active members; 57 had not renewed. Each state chair-person recruited members within the respective states with letters and phone calls. Newsletters were also sent. She also reported that a national membership brochure is being developed.

   Bylaws: Janet Bubl, Chairman, reported that the national Bylaws Committee had recommended three bylaws changes that will be presented to the membership on the spring 1982 ballot. Changes in the WR bylaws have been deferred until the national bylaws are decided.

   Nominating: Chris Milodragovich, Chairman, reported that 105 ballots were mailed to members in April and that 67 ballots were returned.

   Publications: Merry Jo Dallas, Chairman, is the associate editor of the national ACPTC Newsletter; Deanna Munson is the editor.

   Regional Conference: Ardis Koester, Chairman for the 1981 Portland Conference, reported that 70 participants had been registered even though the mailing had been so late. The mailing was late due to late receipt of mailing labels from national and also to delays of bulk mail.

   Ellen Goldsberry, representative from Arizona, reported that the 1982 meeting would start October 21 with an evening reception at the Double Tree Inn in Tucson, Arizona.

   National Conference: Orpha Herrick, Chairman for the 1983 National Conference, stated that the focus for the July program would be "Hawaii-Eastward."

   WR Liaison to National Executive Board: Jean Margerum presented her report as attached.

   Western Region Coordinating Committee: Merry Jo Dallas, Chairman, reported that WRCC-23 had met in Portland on October 20-22, 1981, for the first year of a three-year extension. Research News Notes, abstracts on current research in the Western Region, are still available from any committee member. A Guide to Publication Sites for Textiles and Clothing Authors was published
and is available for $5.00 from Holly Schrank, University of Kentucky.

ASTM Meeting: Marjory Joseph submitted reports on both the March 1981 and October 1981 ASTM meetings. The March meeting included the seminar "A Case of Liaison" presented at the D-13 Committee meeting by ACPTC regional liaison members, Marjory Joseph, Carol Warfield, and Coila Janecek. Potential research and activity areas identified at the discussion following the seminar were (1) consumer expectations and feedback about consumer experience with textile products, (2) ACPTC member participation in ASTM interlaboratory studies, (3) importance of wear trials as a means of consumer input. In October the ACPTC representatives met with several subcommittees and task groups and participated in a variety of committee D-13 activities.

6. Future Meeting Sites: Any invitations for the 1984 meeting should be submitted to Janet Else, President-elect.


She said that the WR Clothing Specialists had decided to emphasize the first two thrusts during the next year. Their position is to "ACT-NOT REACT" in making positive statements about textiles and clothing to the media and others. One task being undertaken by the specialists is the development of a "key words" list for use in publication.

Discussion followed: Members can borrow copies available in each state's TC Extension Office. Arizona was asked to leave room in the 1982 program for further discussion and development of future thrusts for textiles and clothing.

8. Adjournment: The meeting was adjourned by Marilyn Horn.

Respectfully submitted,

Merry Jo Dallas, Secretary
Report from National Executive Council Meeting
Atlantic City, N.J. June 23, 1981

Submitted by Jean Margerum

1. Bylaws and Handbook Committee
This committee reviewed criteria for membership in relation to job descriptions of textile and clothing extension specialists and decided that full membership is open to the specialists.
Three bylaws revisions were passed. The proposed changes will be presented to the membership on the spring 1982 ballot. In essence, the recommended revisions were: 1) To reduce regional representatives to National Executive Board by one. 2) To make regional presidents voting representatives to the National Executive Board. 3) To change Bylaws and Handbook membership composition to reflect current practice.

2. Finance Committee
The new budget as approved November 1, 1980, was revised to reflect a 10% increase in the executive director's salary. Financial support for the Futures Committee was allocated at $300 and $50 was allocated to the Bylaws Committee.

3. Futures Committee
The committee recommended that the executive board write a response to authors of New Initiatives to illustrate ways textiles and clothing can fit into the framework identified in the document. Four members of the board, L. Dickey, P. Tortora, M. Jenkins and S. Friend, volunteered to discuss an ACPTC response which will be drafted by Mary Don Peterson, chairman of the Futures Committee.

4. Publications
a. Newsletter: A motion was approved that the call for papers for the Newsletter be sent out in early fall with a January deadline, in order to get the Newsletter mailed in April.
b. ACPTC Journal report: J. Boles, chairperson, reported on progress of the journal manual. The manual was accepted with some minor changes suggested. J. Uptegraff is seeking financial advice for generating income to support publication costs of the journal.

5. National Meeting Sites
Plans for the 1983 meeting in Hawaii are progressing well. ACPTC has accepted an invitation to meet in Houston, Texas for 1986.
ACPTC-WR

Financial Report

October 21, 1981

<table>
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<tr>
<th>Assets</th>
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<tr>
<td>In checking account 10/30/80</td>
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<td>Dividends from credit union accounts</td>
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<td><strong>Total Disbursements</strong></td>
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**Disbursements**

| By-laws Committee, copying | 3.60 |
| Finance Committee, copying | 2.12 |
| Board members, partial travel to natl. conf. | 1500.00 |
| President, national conference | 598.60 |
| President, National Executive Board | 533.05 |
| Membership Committee, newsletters | 6.00 |
| Proceedings for 1980 | 559.54 |
| Portland Conference, advance | 500.00 |
| Mailing labels | 35.08 |
| Nominating Committee, mailing labels | 11.50 |
| Printing, stationery and envelopes | 53.74 |
| **Total Disbursements** | **3803.23** |